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Nuclear options for a unified Korea: prospects and impacts

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THESIS

NUCLEAR OPTIONS FOR A UNIFIED KOREA: PROSPECTS AND IMPACTS

by

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December 2000

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Current policies for a nuclear-free Korean peninsula and a nuclear-free Northeast Asia are detrimental to a unified Korea's security and economic needs. Republic of Korea or a unified Korea must move towards a virtual nuclear capability. More importantly, the United States should encourage this policy. Otherwise, the U.S. security commitment to Korea would become questionable and opaque nuclear weapons development might become an attractive option for Seoul.

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NUCLEAR OPTIONS FOR A UNIFIED KOREA: PROSPECTS AND IMPACTS

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ABSTRACT

This thesis explores the future prospects and strategic impact of nuclear proliferation by a unified Korea on regional peace and security. It argues that the perception of vulnerability from external threats, public preference on nuclear weapons, bureaucratic and industrial efforts to meet rising energy and economic demands, and environmental issues will drive a unified Korea toward nuclearization. It suggests that possession of a small nuclear arsenal or a virtual nuclear capability would help to maintain regional peace and security.

Current policies for a nuclear-free Korean peninsula and a nuclear-free Northeast Asia are detrimental to a unified Korea's security and economic needs. Republic of Korea or a unified Korea must move towards a virtual nuclear capability. More importantly, the United States should encourage this policy. Otherwise, the U.S. security commitment to Korea would become questionable and opaque nuclear weapons development might become an attractive option for Seoul.

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EXECUTIVE SUMMARY

When states wanted to change the political or territorial status quo, the Korean peninsula was often the first target of aggression. The winner of regional competitions often gained hegemony over the Korean peninsula. Korea has been too small to provide for its security by itself. Due to these historical experiences, Koreans have the perception of vulnerability of foreign intervention, and thus a strong desire for jajoo-kukbang (self-national-defense). After the Korean War, both Koreas strongly voiced the need for self-defense, but the inherent limitations faced by small states prevented self-reliance in security matters.

Vulnerability of foreign intervention was the major motive behind the nuclear weapons programs in both Koreas. Both Koreas believed that owning nuclear weapons would enhance their national security. The two Koreas did not succeed in acquiring nuclear weapons, but, both countries benefited from concessions made by the United States and other concerned countries to prevent weapons development. Nevertheless, both countries have not lost the industrial and technical capability needed to continue their nuclear weapons programs should they desire.

While the Cold War still exists on the Korean peninsula, both Koreas have achieved a significant reduction in tensions and have made progress towards a united country on the peninsula. Given declining support from former communist allies and an atrophied economy, North Korea is willing to open up, cooperating with South Korea and Western countries. Korean unification seems to be close. South Korea's superiority in economic power and support from major powers imply that peaceful unification through

negotiation is feasible and that a domestically stable, democratic, and market-oriented political entity will be born through the unification process.

A peaceful Korean unification would remove a major cause for tension and instability in the region. Another latent cause for instability, however, would come to the surface. Korean unification will remove a regional buffer zone and increase the competition between the United States, Japan, Russia, and China. In the meantime, Korean nationalism after unification will become stronger and more hostile against foreign influence. If the economy of a unified Korea can bear the high costs of unification, a unified Korea will be a stronger state than either South Korea or North Korea in terms of population, military force, and economic power. Nevertheless, a unified Korea will not possess sufficient deterrents to guarantee protection from foreign intervention. There is no promising future for a security system that could guarantee regional security and peace. The source of security for Northeast Asia and a unified Korea is highly debatable issue.

To prepare for and hedge against the destabilizing effects of Korean unification and the threat of possible foreign intervention, a unified Korea will require stronger military forces. In formulating national security strategy for a unified Korea, nuclear options should be considered. Nuclear weapons or a virtual nuclear capability will be useful in preventing foreign military intervention. Realistically, a unified Korea will have three nuclear options: (1) the overt inheritance of North Korean nuclear bombs and infrastructures; (2) an opaque nuclear program for a small number of nuclear weapons after the inheritance or dismantlement of North Korean nuclear bombs and facilities; (3) virtual nuclearization without real nuclear weapons. These options will be constrained by

international non-proliferation and counter-proliferation efforts, high economic unification cost and possible dwindling economy, and plausible domestic anti-nuclear sentiment. But, the perception of vulnerability from external threats, public preference on nuclear weapons, bureaucratic and industrial struggle to meet rising energy and economic demands, and environmental issues will drive a unified Korea toward nuclearization.

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I. INTRODUCTION

Since the end of the Cold War, many observers have anticipated Korean unification. This expectation has been encouraged by the experience of German unification and by the possibility of the collapse by the North Korean regime. The death in 1944 of Kim IL Sung, the founder of Democratic People Republic of Korea (DPRK or North Korea), economic decline, a subsistence crisis dating from the late 1980s, and dwindling support from Russia and China suggest that the collapse of the North Korean regime may soon occur. Debate over this prospect has focused on whether there will be a hard-landing (explosion or implosion) or soft-landing (peaceful transition to a responsible state) of what remains the most closed and isolated regime in the world. Although Kim Jong Il, the son and successor of Kim Il Sung, has prevented a North Korean breakdown, Korean unification appears likely. For the last decade, South Korea has continued its efforts to cooperate with the North as a first step towards unification. South Korea's comprehensive approach to dismantle the Cold War structure of the Korean peninsula was intensified by President Kim Dae Jung and his "Sun-shine Policy."[1] President Kim Dae Jung became the first South Korean leader who has met a North Korean leader. This meeting led to the temporary reunion of some separated families.

Korea has been a pivotal area for regional stability and peace. The United States, Russia, China, and Japan, all have attempted to control the Korean peninsula physically

[1] The Sun-shine policy is President Kim's Engagement Policy with North Korea. It is designed to improve inter-Korean relations by promoting peace, reconciliation, and cooperation. See, Republic of Korea Ministry of Unification, *Unification Policy*, 1999 (http://www.unikorea.go.kr/cgieg/eb.cgi?31C31/-C316.htm, accessed on 20/11/2000)

or politically. China and Russia have tried to expand their influence into the Pacific through the Korean peninsula. Japan and the United States also have used the Korean peninsula to influence events in East Asia. This history of outside intervention in Korean affairs has produced a Korean perception of vulnerability to external threats. The fact that Korea lacks natural resources has increased this sense of vulnerability.

During the Cold War, bipolarity stabilized the region. The end of the Cold War, however, has raised the possibility of a struggle for regional hegemony. Declining U.S. influence, rising Chinese hegemony in the region, and the emerging military power of Japan as a nuclear-ready state have increased the likelihood of a struggle for regional influence among the major powers, making Korea again vulnerable. Unification of the two Koreas will not change this vulnerability.

During the 1970s, South Korea attempted to acquire nuclear weapons because it thought that nuclear weapons would be beneficial for its security. Since the mid-1980s, North Korea has developed a capability to produce nuclear bombs and associated delivery systems. Information revealed during the 1993 nuclear crisis with North Korea suggests that North Korea probably has 2-3 nuclear bombs. Under the Agreed Framework, North Korea agreed to freeze its nuclear program, receiving two light water reactors (LWRs) to be completed in 2003 and 2005, and 500,000 tons of oil annually for heating and electricity. The Agreed Framework, however, did not mandate the North's full compliance with its International Atomic Energy Agency (IAEA) safeguards agreement. North Korea remains a party to the Treaty on the Non-proliferation of Nuclear Weapons (NPT), although the IAEA postponed verification of the accuracy and completeness of North Korea's initial NPT report on the nuclear materials in its

possession until "the LWR project is completed, but before delivery of key nuclear components."[2] In addition, the accord did not eliminate suspicions about the diversion of unloaded spent fuel rods in 1989 and 1994, because North Korea did not permit IAEA special inspections of its two nuclear waste sites. The discovery of the Kumchang-ri underground facilities and the August 1998 Taepodong-1 missile launch also suggested that the North was continuing its nuclear weapons development covertly, hiding it from the inspection provisions of the Agreed Framework.

The possibility of Korean unification raises questions about nuclear options of a unified Korea. Would a unified Korea require nuclear weapons or a virtual nuclear capability for its own security? What nuclear options will be available for a unified Korea? What will be the strategic effects of nuclear proliferation by a unified Korea on regional peace and security? To answer these questions, nuclear policies and capabilities of the two Koreas and nearby countries will be described. In addition, Korean unification scenarios and security options for a unified Korea will be examined. Finally, the strategic impact of a Korean nuclear arsenal on regional security will be explored based on the debate between nuclear deterrence optimism and proliferation pessimism and political relativism and on the specific regional context of security relations between regional state-actors.

This research will provide insights that support the requirement to reconsider U.S. and South Korean nuclear policies, which are currently based on a notion that nuclear proliferation in Northeast Asia will be dangerous for regional peace and security. The

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[2] Rodney W. Jones, Mark G. McDonough, Toby F. Dalton, and Gregory D. Koblentz, *Tracking Nuclear Proliferation: A Guide in Maps and Charts, 1998*, (Carnegie Endowment for International Peace, 1998), p.149.

thesis will be based on the assumption that the security of a unified Korea will be affected by regional stability and by its relations with the four major regional powers of China, Japan, Russia, and the United States. Most analysts have emphasized the negative consequences of a unified Korea's potential pursuit of nuclear options. This research will explore whether the nuclearization of a unified Korea would be compatible with regional security and peace.

A. THESIS HYPOTHESIS AND STATEMENT

Nuclear proliferation pessimists, such as Scott Sagan, argue that nuclear proliferation is dangerous to the international community as well as to would-be nuclear proliferants. Nuclear deterrence optimists, such as Kenneth Waltz, view nuclear weapons as "absolute weapons," whose possession and proliferation will produce peace, by preventing the initiation of military conflicts. The thesis largely relies on the arguments by nuclear deterrence optimists. The thesis argues that nuclear proliferation by a unified Korea will not harm regional peace and security. Evidence to support this hypothesis will be drawn from the history of nuclear proliferation and specific conditions in Northeast Asia.[3]

B. METHODOLOGY

The thesis will be based on scholarly papers both in English and Korean and on government documents of the United States and Republic of Korea. The paper will

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[3] Peter Lavoy, "The Strategic Consequences of Nuclear Proliferation," *Security Studies* 4, No. 4 (Summer 1995), p. 699~717.

describe the debate about the consequences of the spread of nuclear weapons as described by nuclear deterrence optimists, including Kenneth Waltz, and proliferation pessimists, including Scott Sagan. The thesis will draw on general criteria to evaluate the strategic effect of nuclear proliferation on Northeast Asian security and peace. The thesis also will trace the history of the nuclear policies of the two Koreas and other countries' security policies toward the Korean peninsula. Finally, the paper will examine the impact of a unified Korea's nuclear capability on regional peace and security based on arguments of global and regional nuclear deterrence optimism.

C. THESIS STRUCTURE AND ORGANIZATIONS

The thesis consists of six chapters. The second chapter discusses the strategic consequences of nuclear proliferation, introducing the debates between nuclear deterrence optimists and nuclear proliferation pessimists and political relativists in nonproliferation of nuclear weapons. By examining the debates, it suggests criteria to evaluate the strategic effects of nuclear proliferation in a regional context. The third chapter provides the history and future prospects of nuclear proliferation on the Korean peninsula. The fourth chapter surveys unification scenarios and potential strategic security environments after Korean unification as a starting point for identifying possible security and nuclear options for a Unified Korea. The chapter examines the usefulness of nuclear weapons or virtual nuclear capability to secure the vital interests of a unified Korea. This analysis includes realistic nuclear options and possible nuclearization paths on the Korean peninsula. It also includes obstacles that a unified Korea would need to overcome to develop nuclear weapons or a virtual nuclear deterrent. The fifth chapter

evaluates the strategic impact of nuclear proliferation by a unified Korea on regional peace and security in Northeast Asia by using the criteria introduced in the second chapter, and by comparing the costs and benefits of the nuclear options for a unified Korea. Finally, the thesis concludes with findings about whether, and in what circumstances, a nuclear capability of a unified Korea and regional nuclear proliferation would be positive for Korean security and the implications for U.S. and South Korea nuclear policies.

II. DEBATE ON THE STRATEGIC CONSEQUENCES OF NUCLEAR PROLIFERATION

A. COMPETING THEORIES

What will the spread of nuclear weapons do to the world?[4] Ever since nuclear weapons were used against Japan, efforts to answer this question continue. Today, many observers believe that nuclear weapons have made war less likely. Many efforts have been made to prevent nuclear proliferation, in particular through the NPT. However, many believe that nuclear proliferation is the greatest danger to international peace and security. How can these contradictory views be explained? Three arguments have been advanced to account for the effects of nuclear proliferation: nuclear deterrence optimism; proliferation pessimism; and political relativism.[5]

1. Nuclear Deterrence Optimism Vs. Proliferation Pessimism

Nuclear deterrence optimists, such as Kenneth Waltz, suggest that nuclear deterrence produces peace and stability because of the mutual fear of nuclear retaliation. This fear makes wars unlikely, thereby improving the prospects for peace among nuclear-armed states. The spread of nuclear weapons is depicted as beneficial. Although the ideas about the benefits of nuclear proliferation are not new, it was not until Waltz's famous

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[4] This question was the title of Kenneth Waltz's paper, which was presented in a 1979 conference. Waltz, "What Will the Spread of Nuclear Weapons Do to the World?" in *The International Political Effects of the Spread of Nuclear Weapons*, ed. John Kerry King (Washington, D.C.: U.S. Government Printing Office, April 1979), p. 165~96.

[5] Lavoy, "The Strategic Consequences of Nuclear Proliferation," p. 699~717.

monograph, *The Spread of Nuclear Weapons: More May Be Better*,[6] that nuclear deterrence optimism became popular in international politics. Proliferation pessimists, led by Scott Sagan, reached a different conclusion: the spread of nuclear weapons will make world unsafe and insecure. This disagreement comes from a different logic applied by each group of theorists: structural neo-realism and rational deterrence theory by Waltz, and organization theory by Sagan.[7]

Both prominent scholars seem to agree with Sagan's definition of the three major operational requirements for stable nuclear deterrence: "(1) there must not be a preventive war during the transition period when one state has nuclear weapons and the other state is building, but has not yet achieved, a nuclear capability; (2) both states must develop, not just the ability to inflict some level of unacceptable damage to the other side, but also a sufficient degree of "second-strike" survivability so that its force could retaliate if attacked first; and (3) the nuclear arsenals must not be prone to accidental or unauthorized use."[8]

Behind Waltz's optimism, there were four logical points: (1) the international system, a self-help system, constrains states' behavior, making them rational cost-benefit calculators; (2) the history of the nuclear-armed world has been peaceful and new nuclear states do follow operational requirements needed to promote stable nuclear deterrence; (3) "nuclear weapons make wars hard to start" because of the uncertainty about the

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[6] Waltz, "The Spread of Nuclear Weapons: More May Be Better," *Adelphi Paper* no. 171 (London: International Institute for Strategic Studies [IISS], 1981)

[7] Waltz, *Theory of International politics,* (New York, Random House, 1979). Sagan, "More Will Be Worse," in *The Spread of Nuclear Weapons: A Debate*, (New York, Norton, 1995), p. 52~55.

[8] Sagan, "More Will Be Worse," p.51~52.

course a nuclear war might follow and certainty of immense destruction; (4) "nuclear deterrent strategy reduces the need for conventional defense, and this removes a major cause of war."[9]

Sagan makes a counter-argument that most new nuclear states will not be able to fulfill the operational requirements for stable nuclear deterrence because of inherent organizational limitations or the common biases of military professionals, who "are more likely to fight preventive wars, build vulnerable second-strike nuclear forces, and construct nuclear arsenals that are prone to accidental or unauthorized use."[10] Thus, Sagan is concerned more about preventive war in the transition period, preemptive war, nuclear accidents, and unauthorized use of nuclear weapons rather than major conflicts between nuclear-armed states.

Unlike Sagan, Waltz neglects the consequences of nuclear weapons used by lesser powers, saying that "their use of nuclear weapons is always possible" and that "if such states use nuclear weapons, the world will not end."[11] Furthermore, Waltz argues that "the gradual spread of nuclear weapons is better than either no spread or rapid spread," and that "with more nuclear states the world will have a promising future."[12]

The arguments of Waltz and Sagan do not necessarily conflict with competing theories. Peter Lavoy divides nuclear proliferation pessimists into three categories:

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[9] Waltz, "More May Be Better," p.5~6, 15, 44~45.

[10] Lavoy, p. 709~710; and Sagan, "More Will Be Worse," p. 47~91, and "Sagan Responds to Waltz," p. 115~136.

[11] Waltz, "More May Be Better," p.16~17.

[12] Ibid, p.42~45.

abolitionists who argue that "nuclear weapons are too dangerous for any country to possess;" *absolute pessimists* who are concerned about the nuclear arsenals of the emerging nuclear states, not about those of major powers; *conditional pessimists* who "do not believe that all instances of nuclear proliferation are necessarily bad" and insist that some states can undertake safe and secure nuclear operations, but that most of states cannot.[13] Lavoy also classified nuclear deterrence optimists into two categories, putting some theorists, including Waltz, in the *global optimists* group and labeling the other group as the *regional optimists,* whose focus areas are in the Middle East, South Asia, and Europe.[14]

2. Political Relativism in Nuclear Non-proliferation

Political relativists accept both the benefits and problems of nuclear proliferation. Unlike nuclear proliferation pessimists, their concerns lie on "the political character of the states acquiring nuclear arms rather than the number, type, or technical properties of the weapons systems themselves," saying that "bad states do bad things."[15] Although they do not defend the decision of Israel, India, and Pakistan to acquire nuclear weapons, political relativists do not group these states with rogue states such as Iraq, Iran, and North Korea, advocating coercive diplomacy against rogue states in order to prevent their nuclear weapons program. They are not concerned about the nuclear weapons program of some countries whose nuclear weapons works for peace and stability in the regional

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[13] Lavoy, p. 708~711.

[14] Ibid, p. 717.

[15] Ibid, p.700.

context, or if the nuclear-armed regime is democratic. Political relativists and nuclear optimists favor nuclear proliferation for the same regions.

B. CRITERIA FOR THE STRATEGIC CONSEQUENCES OF NUCLEAR PROLIFERATION ON REGIONAL PEACE AND SECURITY

Although the history of nuclear weapons supports the nuclear optimists' argument that nuclear weapons make wars unlikely, many observers, who are largely influenced by nuclear proliferation pessimism, have feared that nuclear proliferation will result in nuclear war. The concerns voiced by nuclear pessimists are increasing. Lavoy identified these concerns:

(1) Incomplete nuclear weapons systems invite preventive military attack.
(2) Vulnerable nuclear forces invite preemptive military attack.
(3) Primitive command and control raises the risks of nuclear accidents.
(4) Unstable command and control risks the loss of control over nuclear forces, raising the possibility of unauthorized nuclear use or nuclear terrorism.
(5) Nuclear arms racing is inevitable and raises the risk of war.
(6) Nuclear proliferation could increase the likelihood of conventional military conflicts.
(7) Conventional conflict could escalate to nuclear war.
(8) Nuclear forces might be used for coercion and aggression.
(9) New nuclear states might assist proliferation elsewhere.
(10) Successful nuclear proliferation could induce further nuclear proliferation.
(11) Nuclear proliferation raises the risks of cataclysmic nuclear war.
(12) New nuclear states could limit the political and military influence of major powers.[16]

These twelve concerns have merit, but are still debatable. These concerns should not be used to predict the strategic consequences of nuclear proliferation in specific regions. When dealing with the proposition that nuclear proliferation contributes to

[16] Ibid, p. 718.

regional security and peace, more limited criteria, rather than lists of all possible concerns, should be used.

Nuclear accidents not involving nuclear weapons would not significantly affect regional and global security. The Chernobyl nuclear accident offers an example of an accident that did not trigger a conflict. A nuclear arms race within minimum nuclear deterrence requirements will not significantly undermine regional security. Due to their massive destructive effects of nuclear weapons, a limited number of nuclear weapons are quite adequate to deter.[17] Thus, new nuclear states will try to obtain a minimum deterrence capability, realizing that many weapons are both unnecessary and uneconomical. The limited production of nuclear bombs by certain states will not necessarily provoke overreactions of their adversaries. The strategic nuclear arms race between the United States and Soviet need not be replicated. Nuclear weapons as an instrument for coercion and as political and military leverage against major powers also need not be a threat to regional security and peace. The concerns of nuclear proliferation on Lavoy's list (9) and (10) could be resolved if it can be demonstrated that nuclear proliferation in a regional context bolsters regional peace and security.

Peace should be defined as an international state without a war not as the total absence of security threats. Instability can be introduced by new nuclear proliferation in a certain region, but without a war, the region would remains in peace. Nuclear weapons would increase minor concern about preventive and preemptive war, nuclear accidents, and would-be nuclear target in case of nuclear war, but decrease major concern about major military conflicts that can be a significant threat to national security. Thus, to

evaluate strategic consequences of nuclear proliferation on the regional peace and security, strict and limited criteria should be used: *If nuclear proliferation would not generate preventive military attack, preemptive military strikes, and a nuclear war, and make less likely other type of conventional conflict, it will bolster regional security.* A region with nuclear weapons will be more secure than one without nuclear weapons.

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[17] Waltz, "More May Be Better," p.22.

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III. TWO KOREAS' NUCLEAR DEVELOPMENTS AND CAPABILITIES

A. SOUTH KOREA

The Republic of Korea currently has no intention to obtain nuclear weapons. South Korea announced its nuclear-free Korean peninsula policy in 1991, and supported indefinite extension of NPT in 1995. All South Korean nuclear facilities and fissile materials have been under IAEA supervision, and South Korea is believed to be in compliance with their NPT obligations. South Korea is in the category of nuclear "abstaining countries": it has the technical, industrial, and financial assets to produce nuclear weapons.[18] South Korea had seriously explored a nuclear-weapons option in the 1970s. Identifying the motive for South Korea's attempt to seek nuclear weapons can help project future prospects of nuclear proliferation on the Korean peninsula.

1. Attempted Nuclear Weapons Development

South Korea tried to develop nuclear weapons to defend against the military threat from North Korea because its own conventional forces were not sufficient to deter a North Korean attack and because of a growing lack of confidence in the U.S. security guarantee. Since its inception, South Korea has depended on a U.S. security guarantee and its military assistance to deter a North Korean attack. The United States was the main contributor to the UN force that protected South Korea from the 1950 communist attack and later signed a Mutual Defense Treaty with South Korea. Since then, U.S. troops and weaponry, including tactical nuclear weapons, have been stationed on the Korean

peninsula as a military balancer and trip-wire. At first glance, these commitments are sufficient to deter the attack from North Korea. But, an alliance may be a less reliable deterrent than a state's own military armament. In particular, when a patron state reduces its security commitment, a client state will seek to strengthen its own defenses. This phenomenon, declining security support and increasing desire for independent deterrents, occurred from the late 1960s to the early1970s on the Korean peninsula.

South Koreans began to worry about their security after the July 1968 announcement of the Nixon Doctrine, which called for allies to develop a self-sufficient military.[19] This policy promised Asian nations that the United States would guarantee its security commitments in the region with a nuclear umbrella, but not with conventional forces, and implied the withdrawal of conventional troops in the region. Subsequently, the U.S. Army 7th Division withdrew from South Korea in 1971, while there was still North Korean conventional force superiority over South Korea. The reduction of U.S. ground troops was perceived in Seoul as a gradual reduction in commitment by the United States. The new U.S. doctrine called for the use of nuclear weapons against a non-nuclear state in the case of an attack. U.S. extended deterrence lacked credibility against North Korea because its allies, the Soviet Union and People Republic of China (PRC or China), were powerful nuclear states. U.S.-Soviet détente in the late 1960s and the improvement in relations with China in 1972 also led South Korean leaders to doubt the

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[18] Jones, et all, p.11.

[19] In July 1968, while visiting the island of Guam, President Richard M. Nixon gave a speech outlining a new policy regarding military commitments to Asian allies. Initially referred to as the Guam Doctrine, it later became known as the Nixon Doctrine. While not necessarily abandoning U.S. security obligations, this policy called for U.S. allies in Asia to take primary responsibility for their own defense.

firmness of the American commitment to South Korean security. The abandonment of South Vietnam, where two South Korean infantry divisions fought also, was traumatic for South Koreans. President Carter's troop withdrawal plan for South Korea caused additional doubt about the capability and credibility of U.S. commitments.

Plans for the South Korea nuclear weapons program began with the Nixon Doctrine. The Nixon Doctrine gave President Park the justification to undertake massive modernization of South Korean military forces. Perceptions of a diminishing U.S. security guarantee was linked to a strong self-reliance doctrine, *Yooshin*, which had led to a lasting military modernization. Independent security meant creating an independent deterrent and a growing South Korean interest in developing its own nuclear weapons. In 1970, South Korean President Park created an Agency for Defense Development, which included a clandestine Weapons Exploitation Committee.[20] In 1972, Park began working with France to acquire reprocessing equipment and technology.[21] In 1973, South Korea began recruiting ethnic South Korean nuclear, chemical, and engineering specialists from Canada and the United States, and began purchasing nuclear materials and equipments. By 1974, South Korea and France had finalized the design of a facility that would produce 20 kg of weapons-grade plutonium per year. [22] A 12 June 1975 article in *The Washington Post* reported that President Park, for the first time, confirmed that South Korea had the capability to go nuclear and that it would do so if abandoned by the United

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[20] Don Oberdorfer, *The Two Koreas: A Contemporary History,* (Basic Books, 1997), p 68-74.

[21] Ibid, p 68-74.

[22] Ibid, p 68-74.

States, while saying that he would also honor the NPT.[23] After U.S. recognition of the South Korean nuclear program,[24] U.S. officials and diplomats focused on halting the development of nuclear weapons in South Korea. Declassified documents dealing with the South Korean nuclear program show vividly how the United States tried to prevent it. One American attempt suggested withholding financial aid packages, military assistance, and civilian nuclear technology to Seoul's nuclear power program as a means of bringing pressure on South Korea to abandon its nuclear weapons program.[25] It also shows that the United States pressed the French to prevent the sale of reprocessing plants to South Korea.[26] In July 1975, U.S. Defense Secretary James Schlesinger told President Park that a nuclear weapons program was the one thing that could endanger U.S.-South Korean relations.[27] In June 1977, Schlesinger told his South Korean counterpart that the United States would "review the entire spectrum of its relations" with South Korea, which included both defense assurances and economic arrangements.[28] Under this U.S. pressure, South Korea cancelled the contract with the French and abandoned its nuclear

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[23] Rowland Evans and Robert Novak, "Korea: Park's Inflexibility," *The Washington Post*, 12 June 1975.

[24] Oberdofer said in his book that the United States discovered South Korea's plan in November 1974. The first U.S. Declassified document dealing with South Korea nuclear program was issued in March 26, 1975.

[25] Cable. Department of State, Secret. Issue date: April 22,1975. Date declassified: March 13, 1996. Unsanitized. Complete. 7pages. CDROM Id: 1996110103177. Fiche#:1996-268.

[26] Memo. National Security Council. Secret. Issue date: July 11,1975. Date declassified: June 1. 1995. Unsanitized. Complete. 2 pages. CDROM Id:1996010100428. Fiche#: 1996-33.

[27] Oberdorfer, p. 68-74.

[28] Ibid, p. 68-74.

weapon program.[29] The South Korean nuclear energy program, however, has increased under IAEA safeguards since South Korea signed the NPT in 1975.

2. Peaceful Nuclear Developments and Its Capabilities

As a country lacking energy resources, South Korea has developed its nuclear power plants since 1970 to supply domestic industrial needs.[30] In 1992, with nine nuclear power plants in operation and three plants under construction, South Korea ranked as the world's tenth largest producer of nuclear energy.[31] The reactors currently under operation provide almost half of the nation's electricity.[32] In 1994, the ROK government spent $1.5 billion on nuclear research.[33] South Korea is continuing its nuclear power program. The target quantity for operational reactors by 2006 is 27.[34] South Korea does not have any reprocessing and enrichment facilities, storing its spent fuel in water pools. In 1994, 260-tons of spent fuel was being produced annually, and its accumulated amount reached 2.2 kilotons, all of which has not been reprocessed. It will increase to 5 kilotons by 2001.[35]

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29 "South Korea Said to Have Almost A-bomb in Late 70s," (*Seoul: Kyodo New International Inc*, 5 October 1995).

30 Ha Young Sun, *Nuclear Weapons on the Korean Peninsula and World Order* (in Korean), (Nanam, 1991), p.104~109.

31 Tae-Woo Kim, "South Korea's Nuclear Dilemmas" *Korea and World Affairs* (1992, Summer), p.253.

32 Ibid. p. 253.

33 Suvendrini Kakuchi, "Korean Nuclear Deal Would Add Fuel to Seoul's Ambitions," *Inter Press Service,* 31 October 1995.

34 "ROK Plans for 23 Nuclear Power Reactors Noted," *Korea Herald,* 31 January 1994. A3.

35 Tae-woo Kim, *Why Not South Korean Nuclear Sovereignty?* (in Korean) (Seoul: Jisik Sanupsa, 1994), p.207.

Although South Korea does not have any intention of developing its nuclear weapons, Peter Hayes estimates that "under extreme circumstances, the South could produce a single crude nuclear device in nine months and a deliverable stockpile of warheads in less than five years."[36]

3. Nuclear-free-Korean Peninsula Policy, North Korean Nuclear Program, and Future Prospects

North Korea has proposed a denuclearization plan for the Korean Peninsula, stating that if U.S. nuclear weapons are withdrawn from the region and if the South no longer relies on the U.S. nuclear umbrella, the North will allow international inspections of its nuclear facilities.[37] In response to the North Korea's latest nuclear-free peninsula proposal and the U.S. decision to withdraw tactical nuclear weapons from South Korea, Republic of Korea President Roh made a "declaration of non-nuclear Korean Peninsula peace initiatives" on November 8, 1991. The declaration stated that "the Republic of Korea will use nuclear energy solely for peaceful purposes, and will not manufacture, possess, store, deploy or use nuclear weapons."[38] North Korea published a statement clarifying its stand on the question of signing the nuclear safeguards accord: the North and the South "must not develop nuclear weapons, but must accept nuclear inspection simultaneously."[39] North and South Korea signed the *Agreement on Reconciliation, Non-*

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[36] Peter Hayes, "The Republic of Korea and the Nuclear Issue," in Andrew Mack, ed., *Asian Flashpoint: Security and the Korean Peninsula* (Canberra: Allen and Unwin, 1993), p.52.

[37] Tae-Hwan Kwak, "Designing the Non-nuclear Korean Peninsula: Problems and Prospects," *The Korean Journal of Defense Analysis*, Summer 1992, p. 235.

[38] Ibid, p.236.

[39] Ibid, p.237.

aggression, and Exchanges and Cooperation, between the South and the North on December 13, 1991.[40] On December 18, 1991, President Roh announced that all U.S nuclear weapons in South Korea had been removed.[41] On December 31, 1991, both sides signed a document titled *Joint Declaration for Denuclarization of the Korean Peninsula.* It was hoped that the declaration would build a foundation for a nuclear-free Korean peninsula and pave the way for peaceful Korean reunification. North Korea's opaque nuclear program, however, dashed any hopes for progress towards reunification.

B. NORTH KOREA

When compared to other nuclear "high risk states," North Korea is closest to having nuclear weapons.[42] While North Korea is party to the NPT and have denied seeking nuclear weapons, its non-proliferation commitments are suspect. By contrast, South Korea's nuclear industry does not pose a significant threat of nuclear proliferation. In addition, North Korea's nuclear status will have a significant effect on nuclear options for a unified Korea.

1. Nuclear Developments and Motives

North Korea launched an atomic energy program in the mid-1950s, signing a nuclear cooperation agreement with the Soviet Union and sending scientists to Moscow for training. In the 1960s, the DPRK began to operate a research reactor, which the

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[40] Ibid, p.238.

[41] Ibid, p.239.

[42] Jones, et all, p.11.

Soviets provided, and allowed IAEA facility-specific safeguards.[43] North Korea joined the IAEA in 1974, giving Pyongyang access to technical assistance in the peaceful use of nuclear energy.[44] Although the exact start of the North's nuclear weapons program cannot be identified, it was during the early 1980s that the United States began to suspect the North of constructing a covert reactor about one-hundred kilometers north of Pyongyang in the village of Yongbyon.[45] In 1985, the North signed the NPT at Soviet insistence and in exchange for a Soviet promise to supply four light-water reactors.[46] The five megawatts reactor was completed in 1987. No electric power lines were connected to the plant, indicating that it was not an energy production plant. In 1989, about the time when enough plutonium for 1 to 2 bombs might be extracted from spent fuel during the 100 days of reactor shutdown,[47] concerns over an emerging North Korean nuclear capability became serious.[48]

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[43] The following explanation about IAEA safeguards is borrowed from Brian Kux's review essay, "A Near Miss: The North Korean Nuclear Crisis," in *Security Studies* 8, no.1 (autumn 1998), p.243. IAEA safeguards can be either one of two kinds: a nation can submit its entire nuclear fuel cycle to IAEA inspections and surveillance, which is known as full-scope safeguards, or it can allow the Agency to place safeguards on a specific nuclear facility. All NPT members, except the five declared nuclear weapon states, must submit to full-scope IAEA safeguards. Non-NPT states, such as India and Pakistan, have agreements with the IAEA on inspecting individual facilities, though they also operate ones not under any safeguards.

[44] Doug Bandow, *Tripwire: Korea and U.S. Foreign Policy in a Changed World*, (CATO Institute, Washington, D.C. 1996), p.104.

[45] Kux, p.243.

[46] Ibid, p.243.

[47] Michael J. Engelhardt, "Rewarding Nonproliferation: the South and North Korean Cases," *The Nonproliferation Review*, (Center for Nonproliferation Studies, MIIS, Spring-Summer 1996, vol.3 no.3), p.6. (http://cns.miis.edu/pubs/npr/engelh33.htm, accessed in July 18 200)

[48] Some sources insisted that North Korea could have obtained as much as 12kg of plutonium – enough to have manufactured one or two nuclear weapons. Jones, et all, p.147.

Although there is no consensus on what are North Korea's motives for its nuclear weapons program, North Korea was probably developing nuclear weapons to guarantee the survival of the regime.[49] To achieve the goal, North Korea needed an alternative to its outdated and inferior conventional weapon systems. Since the 1970s, the South has outpaced North Korea in terms of GNP. In the 1980s, South Korea's economic growth had increased rapidly and supported significant military modernization. Nuclear weapons were a relatively inexpensive alternative to a conventional arms buildup for North Korea. They also could be used as political and economic leverage to negotiate with Western states to gain economic assistances. Pyongyang also viewed nuclear weapons as a diversionary instrument for domestic control that could defuse internal instability caused by economic suffering and strengthen the weak leadership of Kim Jong-Il. If this analysis is right, then the North Korean nuclear program can be credited as a success.

2. Nuclear Capabilities and the 1994 Crisis

During the 1980s, North Korea was constructing a 50-Megawatt power reactor at Yongbyon, which could produce enough plutonium to make at least one bomb a year.[50] North Korea was also constructing a 200-Megawatt reactor, at Taechon, which could make enough plutonium for 7 to 10 bombs annually.[51] It halted construction of these facilities under the 1994 Agreed Framework.[52] With the probable possession of sufficient

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[49] Tong Whan Park, "South Korea's Nuclear Option," in *The U.S. and the Two Koreas: A New Triangle,* edited by Tong Hwan Park, (Lynne Rienner Publishers, 1998), p.100~105.

[50] Jones, et all, p. 147, and Bandow, p.105.

[51] Ibid, p.105.

plutonium for 1~2 bombs, and two large nuclear reactors under construction, North Korea became a significant nuclear proliferation threat. [53]

After North Korea agreed to the IAEA safeguards on April 9, 1992, a series of inspections were done by the IAEA to verify North Korea's initial inventory of nuclear facilities and materials.[54] As a result of six inspection visits to the North, in January 1993, IAEA inspectors asserted that some plutonium had indeed been diverted from the Yongbyon reactor,[55] calling for a "special inspection" of two undeclared sites near the Yongbyon nuclear complex that were thought to contain wastes from the plutonium separation process.[56] North Korea refused to allow the inspection and announced that it was withdrawing from the NPT, which permits such action on 90-day notice.[57] Under the "dual strategy" [58] of negotiation and pressure of the Clinton administration, direct negotiations between the United States and North Korea began and the North agreed to suspend its withdrawal from the NPT. Full IAEA inspections to assure that nuclear materials were not being diverted to weapons uses were not undertaken.

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[52] Jones, et all, p.147. According this source, if completed, the 50-Mwatt reactor would have the potential to produce enough material for ten to twelve nuclear bombs a year.

[53] Bandow, p.105.

[54] Jones, et all, p.147.

[55] Engelhardt, p.7

[56] Jones, et all, p.148.

[57] Ibid, p.148. NPT allows its member states to withdraw from it if their "supreme national interests" are jeopardized.

[58] Engelhardt, p.7. Engelhardt explained that the Clinton administration, reversing the Bush government's approach, adopted a dual strategy of opening direct negotiations with the North, while at the same time warning of dire consequences if Pyongyang pressed ahead.

In May of 1994, the crisis worsened when the fuel rods in the Yongbyon reactor were removed and replaced without IAEA supervision.[59] This material could provide enough plutonium for 4~5 nuclear devices.[60] Consequently, Republicans in the U.S. Congress hinted at a preventive war. However, this option was not favored by the Clinton administration, which placed an oil embargo on North Korea.[61] Over objections of the PRC, Japan, and even South Korea, the United States was determined to bring a sanctions proposal before the U.N. Security Council.[62]

The breakthrough in the crisis occurred when the former President Carter visited North Korea and meet with Kim Il Sung, who proposed the resumption of high-level talk between the United States and DPRK as a prerequisite to freeze his country's nuclear program.[63] Follow-on, negotiations produced the "Agreed Framework" of October 21, 1994, which resolved the North Korea nuclear question temporarily.

3. Agreed Framework and Future Prospects

Under the "Agreed Framework," North Korea would receive two light water reactors (LWRs) to be completed in 2003 and 2005, and 500,000 tons of oil annually for

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[59] Ibid, p.7.

[60] Jones, et all, p.147. Michael Engelhardt insisted that the amount would be enough to produce 5~6 nuclear bombs. Engelhardt, p. 7.

[61] For more detailed discussions about military actions to prevent North Korean nuclear weapons program, see David C. Kang, "Preventive War and North Korea," *Security Studies*, vol.4 no.2 (Winter 1994/5).

[62] Engelhardt, p. 8.

[63] Jones, et all, p.148. Engelhardt added two more preconditions to freeze North Korean nuclear program: the construction of two light water reactors and the U.S pledge of negative security assurance against North Korea. Engelhardt, p.8.

heating and electricity.[64] In return, North Korea agreed to freeze its nuclear program.[65] Although the Agreed Framework provided several benefits, many scholars criticized the accord.[66] Byong-Joon Ahn, a South Korean political scientist, claimed that "Washington gave Pyongyang all that it wanted" in return for half-hearted promise.[67] The Agreed Framework did not mandate the North's full compliance with its IAEA safeguards agreement although it would remain party to the NPT. The framework also postponed IAEA verification of the accuracy and completeness of North Korea's initial report on the nuclear materials in its possession until "the LWR project is completed, but before delivery of key nuclear components."[68] In addition, the accord did not address the suspicion about the diversion of unloaded spent fuel rods in 1989 and 1994 because it did not call for IAEA special inspections at the two waste sites.

These critiques gained more supporters after the discovery of the Kumchang-ri underground facilities and the August 1998 Taepodong-1 missile launch. U.S.

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[64] Engelhardt, p.8. The agreement mandated the establishment of a multinational consortium that will finance and supply North Korea with two LWRs by the target date of 2003. The consortium, later called Korean Peninsula Energy Development Organization (KEDO), was founded by the United States, South Korea, and Japan.

[65] North Korea promised specifically "to refuel the 5-Megawatt Yongbyon reactor, halt construction of the 50-Megawatt reactor at that site and of the 200-Megawatt reactor at Taechon, seal the Yongbyon plutonium separation plant and the fabrication plant at the site, and leave the spent fuel discharged from the 5-Mwe reactor in June 1994 in storage, without plutonium separation." North Korea also agreed that "the spent fuel would be removed from North Korea as nuclear components for the first LWR are supplied, and that all of the facilities where activities were frozen would be dismantled by the time that the second LWR was completed." See, Jones, et all, p.148~149.

[66] Jones, et all, p.148~149; R. Jeffrey Smith, "What Price for Nuclear Peace of Mind?" *The Washington Post* (National Weekly Edition), October 24~29, 1994, p.16~17; Peter Zimmerman, "Win-Win with North Korea," *The Christian Science Monitor*, November 21, 1994; Byung-Joon Ahn, "The Man Who Would Be Kim," *Foreign Affairs* 73 (November/December 1994), p.94~108.

[67] Ahn, p.94~108.

[68] Jones, et all, p.149.

Ambassador Charles Kartman insisted on 21 November 1998 that "... there is strong information that makes us suspicious but we lack conclusive evidence that the intended purpose of the underground site is nuclear related."[69] After a series of U.S.-North Korean Kumchang-ri talks and a visit to the site, the United States did not find conclusive evidence of a nuclear weapons program, but it still remained suspicious that Kumchang-ri may be intended for other nuclear-related uses. In spite of recent progress toward opening North Korea, such as the historic summit between the South and North and its normalization talks with the United States and Japan, the nuclear issue of North Korea remains unresolved and must wait until the 2003 completion of LWR project for its conclusion. It is impossible to finish the LWR project by 2003, however, due to financial problems[70] and the North's ballistic missile program. Complete settlement of the North Korean nuclear question may be delayed indefinitely.

C. CONCLUSION

Security was the major motive behind the nuclear weapons program in both Koreas. Strong leadership also was a driving factor towards nuclearization in both countries. Domestic factors, such as public opinion and nuclear industry interest groups, did not shape the development of nuclear capabilities. The South and North have not been challenged by anti-nuclear public sentiments. Both Koreas believe that owning

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69 "Clinton Shows Muscle But Backs Off Claims on North Korean Nuclear Research," *CNN World News*, 21 November 1998. (www.cnn.com)

70 "The Analysis of South Korea President Kim Dae-Jung's interview with the New York Times", *Internet Yonhap News* (in Korean) (http://www.yonhapnews.co.kr/news/20000912/22170100002000091-21134410.htm, accessed on 12 September 2000)

nuclear weapons will enhance their national prestige and become a major instrument for self-defense. It is not likely that strong anti-nuclear interest groups will emerge in the future. By contrast, pro-nuclear interest groups will grow stronger. Two Koreas and a would-be unified Korea, lacking energy resources, need more nuclear power plants. Also needed will be supplementary services, such as reprocessing, enrichment, and high breed reactor technology, producing a high-capable nuclear industry. This complex will favor a nuclear weapons program.[71] If the countries in the Korean peninsula are capable of the uranium enrichment and reprocessing of spent fuel in both technological and political sense, they can possess weapons-grade fissile materials, and obtain a virtual nuclear capability. If they cannot reprocess the spent fuel, they will face a lot of pressures from economic analysts and environmental activist because the accumulation of nuclear spent fuel is a squsndermania and creates environmental problems. These groups also will favor reprocessing and enrichment technologies, inadvertently supporting virtual nuclear capabilities, although they might not support nuclear weapons.

Koreans' preference on nuclear weapons will largely depend on their threat perception and mobilization capability of the leaders of the two Koreas or the would-be national leader of a unified Korea. As long as the two Koreas, or a unified Korea, do not have independent strategic deterrents or sufficient counterattack denial capabilities, they will have strong incentives to acquire nuclear weapons. Nuclear proliferation by South Korea is very unlikely because the United States provides a security umbrella through the

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[71] Political scientists, who view "technological pull" as a cause of nuclear proliferation, argue that technological progress creates great pressure and a certain momentum of nuclear weapons development and nuclear industry complex group is a major supporter of nuclear weapons program. See, Bradley A. Thayer, "The Causes of Nuclear Proliferation and the Utility of the Nuclear Non-proliferation Regime," *Security Studies,* Vol.4, No.3, (Spring 19950), p. 468~498.

U.S.-ROK alliance, which would be threatened by nuclear proliferation. Future South Korean threat perceptions, largely shaped by the progress of the nuclear weapons program of North Korea and the emergence of a militarily strong Japan, will shape the decisions about whether or not South Korea goes nuclear.

The fact that both Koreas benefited from their nuclear weapons program also will affect the nuclearization decision of a unified Korea. South Korea's nuclear weapons program in the 1970s contributed to the setback of President Carter's plan for troop withdrawal from the South Korea. Moreover, the United States provided more economic and military assistances, helped economic development and the modernization of ROK military forces. North Korea's nuclear weapons program also was rewarded. North Korea received economic benefits such as heavy oil from the United States and two LWRs from Korean peninsula Energy Development Organization (KEDO). [72] It is currently negotiating with the United States for more economic, diplomatic, and security gains by using its nuclear and missile programs as leverage. Given recent U.S. efforts to stop the DPRK's nuclear weapon and ballistic missile programs, including U.S. Secretary of State Madline Albright's visit to Pyongyang, the United States probably will provide some kind of reward for good North Korean behavior. The nuclear question will not end with Korean unification. A unified Korea may have many incentives for nuclear proliferation.

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[72] Engelhardt, p.10.

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IV. NUCLEAR OPTIONS FOR A UNIFIED KOREA

A. UNIFICATION PROSPECTS AND SCENARIOS

It is difficult to predict when and how Korean unification will occur, what a unified Korea will look like, and how it will behave. The character of unified Korea, however, will be affected by the process of unification itself.[73] Since the end of the Cold War and German unification, many observers have approached the unification issue to estimate possible Korean unification scenarios.[74] Jonathan D. Pollack and Chung Min Lee highlight four possible scenarios: "(1) integration and peaceful unification; (2) collapse and absorption; (3) unification through conflict; (4) dis-equilibrium and potential external intervention."[75] Another analyst, Richard Bogusky, sees two possible scenarios

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[73] Michael J. Finnegan, "The Security Strategy of Unified Korea and the Security Relations of Northeast Asia," *The Korean Journal of Defense Analysis*, vol. XI, no.2, (Winter, 1999), p.122. Paul H. Kreisberg, "Threat Environment for a United Korea: 2010," *The Korean Journal of Defense Analysis*, (Summer, 1996), p.107.

[74] For more detailed information, see, Jonathan D. Pollack and Chung Min Lee, *Preparing for Korean Unification: Scenarios and Implications,* (The Arroyo Center, RAND, 1999); Richard L. Bogusky, "The Impact of Korean Unification on Northeast Asia: American Security Challenges and Opportunities," *The Korean Journal of Defense Analysis*, 2000 (http://www.kida.re.kr/journal/bogusky.htm, accessed on April 28, 2000); Edward Olsen, "Coping with the Korean Peace Process: An American View," *The Korean Journal of Defense Analysis*, (Summer 1997); Ministry of Unification of the ROK, *Kim Dae-jung's Policies on North Korea (1999,3,29)* (http://www.unikorea.go.kr/eg/load/C31/C316.htm, accessed on September 18, 2000) and *North Korea Policy of the Kim Dae-jung Administration (1999.1)* (http://www.unikorea.go.kr/eg/load/C31/C315.htm, accessed on September 18, 2000); Marcus Noland, Sherman Robinson, and Li-Gang Liu, working paper of Institute For International Economics, *The Costs and Benefits of Korean Unification*, (http://web.nps.navy.mil/~relooney/3041-174.htm, accessed on June 1, 2000); Paul Bracken, "How to Think about Korean Unification," *Orbis* 42, (Summer 1998); Ben Kremenak, "Korea's Road to Unification: Potholes, Detours, and Dead Ends," *CISSM(Center for International and Security Studies at Maryland) Papers 5*, (CISSM School of Public Affairs University of Maryland at College Park, May 1997).

[75] The "integration and peaceful unification" scenario can be achieved through a long and gradual negotiation process associated with implementation of confidence-building measures, major threat reduction activities, and comprehensive political and social reconciliation between the two Koreas. The "collapse and absorption" scenario is characterized by the collapse of the current North Korean regime after

based on the demise of the North: explosion and implosion.[76] Edward A. Olsen describes six Korean unification scenarios, each differing by the end-state of the resulting unified Korea.[77]

Current South Korea unification policy embraces a single objective of peaceful unification through the "improvement of intra-Korean relations by promoting peace, reconciliation, and cooperation."[78] Although the major powers are neither actively advocating a unification agenda nor attempting to derail movements toward a unified state, there is general consensus that "long, peaceful and probably graduated process of unification" is the most preferred scenario for the Korean peninsula.[79] North Korea also agreed with the South about the merits of peaceful reunification through mutual trust and cooperation, acknowledging that there is a basis for compromise in the South's proposal

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the regime is no longer able to maintain effective political, economic, social, and military control. This may signal the formal end of the state, and its absorption by South Korea, providing a democratic and market-oriented political entity. The "unification through conflict" scenario can be initiated by the use of military forces by North Korea because of domestic instability and completed by a major all-out war. The "dis-equilibrium and potential external intervention" scenario implies that Chinese intervention on a very weakened North Korea would perpetuate the stalemate of Korean division, producing no unification. See, Pollack and Lee, p.49~81.

76 "Explosion" means a military lashing out by North Korea against the South at the outset of its demise. "Implosion" means a domestic instability followed by rapid regime collapse. Bogusky, p.3.

77 The first scenario, which is expected and preferred by most South Korean and American officials, is a "transition from the ROK under Seoul to a robust United Korea under Seoul." The second scenario yields a fundamentally weak a united Korea. Under the third scenario, a united Korea is less supported by a U.S. security commitment. A fourth scenario envisions "a united Korea wracked by hyper-nationalism that leads Koreans to reject past Korean dependence on the United States and either pursues an autonomous strategic posture or fosters new strategic ties with one of its larger Asian neighbors." The fifth scenario proposes that "a united Korea would have no linkages to how Korea reunifies, how its copes with the aftermath of unification, or how Americans or Korea's neighbors perceive a united Korea." The sixth basic scenario is "something of an oxymoron," assuming that a united Korea turns out to be a failure and that "the Korean nation will splinter again along factional and/or regional lines." Olsen, p.171~179.

78 Ministry of Unification of the ROK, *North Korea Policy of the Kim Dae-jung Administration*, p.1

79 Finnegan, p.122~123.

for a confederation and the North's proposal for a loose federation as the formulae for reunification.[80] These indicators imply that integration and peaceful unification through negotiation, called for by Pollack and Lee, is, thus far, the most feasible unification scenario.

To achieve peaceful unification, the South and North will need to build and implement confidence-building measures (CBMs) and major threat reduction activities, such as a peace treaty, a comprehensive political and social reconciliation with mutual recognition, the creation and sustenance of a credible negotiating institutions for arms control, and the creation of a new government, as shown in the figure 1. All of these things will not easily succeed. Moreover, these institutions, meetings, and negotiations will require extensive economic and political reform in the North. They also assume that North Korea will give up its "decades-long demand for the withdrawal of U.S. forces" from South Korea.[81] For this reason, the prospects for such reform and concession remain highly improbable.

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[80] Ministry of Unification of the ROK, "South-North Join Declaration" in the Inter-Korean Summit Talks on June 20, 2000, *Korean Unification Bulletin* (http://www.unikorea.go.kr/eg/load/-A12/A1250.htm, accessed on September 18, 2000), p. 1.

[81] Pollack and Lee, p.55.

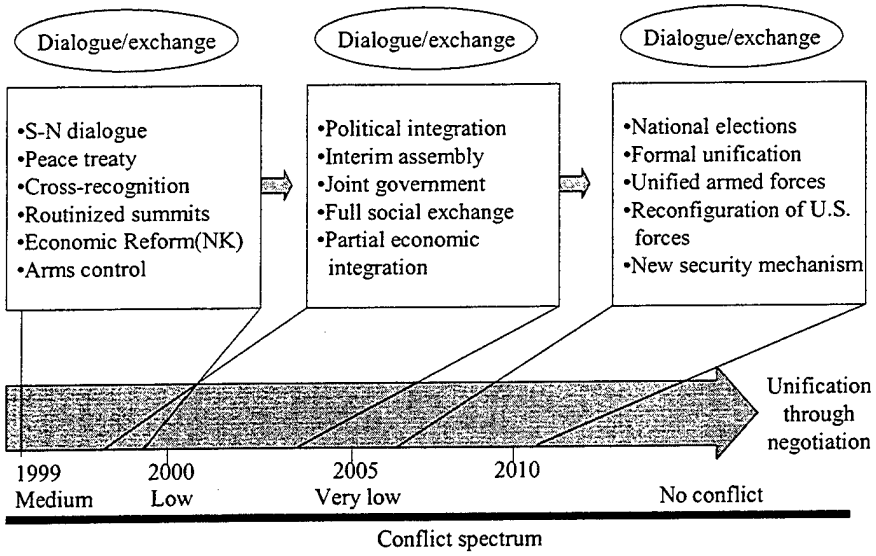

Figure 1 – Integration and Unification[82]

Despite constant hostilities, since both the South and North entered the UN as sovereign states in 1992, their efforts to build a foundation for peaceful unification have been impressive. In 1991, the two governments signed the *Joint Declaration on a Non-Nuclear Korean Peninsula*, and the *Joint Declaration for Reconciliation, Exchange, Cooperation, and Non-aggression.*" The declarations lost their significance due to North Korea's on-going non-cooperation with the South. Fortunately, recent developments in the relationship between the two Koreas, combined with the North's willingness to cooperation with Western nations, have held out the promise for peaceful unification.

Given declining support from North Korea from former (communist) allies, it is very unlikely that the North will launch a massive military surprise attack on South Korea, as it did in 1950, especially so long as the ROK-U.S. military alliance remains solid. Current South Korean policy, public polls which show popular ambivalence to

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82 This is quoted from Pollack and Lee's book, *Preparing for Korean Unification Scenarios and Implications*, p.52.

unification in the South, and the high cost of unification suggest that Seoul will not seek near-term unification through absorption of the North. Therefore, assuming that North Korea will not suddenly collapse, it is likely that Korean unification will come about through long, gradual, and peaceful negotiations between the two regimes and with the support of major powers. The outcome should be a unified Korea that is a domestically stable, democratic, and market-oriented political entity born through a peaceful unification process.

B. IMPLICATIONS OF KOREAN UNIFICATION ON THE NORTHEAST ASIA SECURITY ENVIRONMENT

How will Korean unification change the security environment in Northeast Asia? It is impossible to predict with certainty what the Korean unification process will look like. It is even more difficult to envision the security environment in Northeast Asia after Korean unification. There will be uncertainties about the consequences of Korean unification on regional security. None of the countries in the region, including the two Koreas themselves, can ascertain what Korean unification will mean for them or how a unified Korea will behave strategically. Korean unification will revive many unresolved strategic issues. According to Jonathan Pollack and Chung Min Lee, "the scale and character of the post-unification transition process in the North; the political arrangements that would govern a unified Korean state; the strategic orientation and policies of the new government; the economic priorities and policies it would undertake; the composition of a post-unification military establishment; and the future of the U.S.-

ROK alliance."[83] These issues will remain unresolved until unification occurs, forcing people to make assumptions and to speculate about the uncertainties caused by Korean unification.

The preferred outcomes for each country can nevertheless be determined. South Koreans want unification to remove the threat of war. They believe that unification will allow their country to focus on national prosperity. Unification also will allow separated families to reunite. To South Koreans, the desired outcome might be the ultimate creation of a unified, democratic and internationally influential Korea.[84] Koreans will want more autonomy, prosperity, and security than today.

The United States shares with South Korea the objective of Korean unification. But the United States is concerned that the Korean peninsula will become unstable. It also fears WMD proliferation in the region and irresponsible transfers of weapons to the other areas. Therefore, the United States fears that a unified Korea will turn to China and arm with nuclear weapons. To hedge against this scenario, the United States may choose to maintain forces on the Korean peninsula. Should the Korean peninsula unify, the Chinese and Japanese will want unification to not harm regional stability, and they will want a new state in the peninsula that does not turn against them. Both China and Japan will cultivate extensive political and economic linkages with a unified Korea. But they also will want any instability to be contained within the Korean peninsula. This is a reason why they do not actively urge Korean unification. Thus, from their perspectives, a unified Korea should be strong enough to control domestic order, but strategically neutral

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[83] Ibid, p. 83.

or on their side. In short, the common interests of countries in the region regarding Korean unification is that it should neither harm regional peace and security nor challenge the status quo.

Unfortunately, a unified Korea is bound to have a negative effect on regional stability. Without the buffer zone provided by a divided Korea, tensions between major powers will increase. Paul Bracken contrasts the benefits of Korean division with the dangers of Korean unification, saying that "North Korea alive brought the great powers together to prevent proliferation and war; North Korea dead will drive them apart in unpredictable and potentially conflicting directions."[85] Although a unified Korea will have strong incentives to continue its close bilateral ties with the United States and Japan, it also will have to co-exist with China, which will share its border with a unified Korea.

Without a reliable multilateral collective security system like NATO, a unified Korea will face old security problems and concerns.[86] To promote the security of a unified Korea and the reconstruction of the north, friendly ties with major powers will be required. Whatever the new state's alliance position, however, it will serve as a significant cause for regional tension and instability. A unified Korea might have to move toward a politically neutral position between its more powerful neighbors, lessening ties with the United States and Japan while improving relations with China. This movement would be recognized as a threat by the Japanese. If a unified Korea does not become friendlier to China, Beijing will become uneasy and push for a politically neutral Korea.

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[84] Ibid, p.84.

[85] Bracken, "How to Think about Korean Unification," p.410~411.

[86] Finnegan, p.123.

If a unified Korea cannot rely on its own strategic deterrent or external security alliances, it will be in a position similar to the one that was to its annexation by Japan in the early twentieth century. A unified Korea could rely on a security alliance with one of the major powers, most probably the United States. But, the alliance will be weaker than the one the South now enjoys. The Korean peninsula could be a secondary interest to its patron state. This means that a unified Korea could be abandoned by its patron-state, which may compromise with another power to better promote its own interests, as was the situation with the Taft-Katsura agreement in 1905.

Michael Finnegan points out four potential threats that a unified Korea could face: "the rise of a hegemonic or expansionist China; a remilitarized or expansionist Japan; the possibility of conflict between China and Japan and / or the United States; the collapse of domestic economy."[87] Some might argue that a unified Korea does not have to worry about the threat from China and Japan, because neither has reason to invade a unified Korea. However, Koreans' real concern comes from the fact that Korea has been a victim of conflicts between major powers and continues to be so even today. While history may not repeat itself, the possibility that Korea may yet again become a focus of international tensions is not beyond the realm of possibility. In particular, it is impossible to predict future relations between China and Japan or the United States. The possibility that these may deteriorate increases the Koreans' sense of vulnerability. Korea's geostrategic position as a bridge between maritime and continental powers combined with its lack of energy resources, will increase a unified Korea's perception of vulnerability.

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[87] Ibid, p. 127~128.

A unified Korea will have to deal with strong nationalism, especially directed against countries that have had bad relations with Korea in the past. Anti-Japanese sentiment and fear of the reemergence of Japanese militarism will be the main target of unified Korean nationalism. Even today, nationalism in the Korean peninsula partially defines itself against foreign powers. Nationalism will dictate that a unified Korea may have to do something to insure its own security. Otherwise Koreans fear that their past of conquest and occupation by foreign powers may be repeated. This would encourage a military build-up against Korea's neighbors, probably producing a destabilizing effect on regional stability. In sum, if North Korea were to disappear, a major cause for regional tension and instability also would disappear. But another latent cause for regional instability would come to the surface.

C. FORMULATING SECURITY STRATEGY FOR A UNIFIED KOREA

Given the constraints posed by security environment, the defense of homeland, fostering economic well-being, creating favorable security environment, and the promotion of Korean's prestige would form Korea's national interests.[88] Michael Finnegan describes the foreign policy objectives of a unified Korea: "(1) Remain a sovereign independent state and avoid the historical precedent of becoming a "prize" of big-power games; (2) maintain the territorial integrity of Korea and settle remaining territorial disputes; (3) develop the former DPRK to be a functioning part of the Korean

[88] For the detailed concept of national interests, see, Donald E. Nuechterlein, "The Concept of National Interest: A Time for New Approaches," *Orbis* (Spring 1979), p.73~92.

political and economic system; (4) maintain open access to foreign markets for exports, foreign capital markets for aid and investment, world commodity markets for obtaining needed resources; (5) increase Korean prestige and importance as a regional and world actor."[89] A unified Korea must maintain its sovereign independence and territorial integrity, avoid victimization by larger powers, and feel secure against the pressure of neighboring powerful states. Unification should not undermine economic prosperity. A unified Korea also will try to play an active role in world politics to increase national prestige and political influence.

To achieve these objectives, a unified Korea should pursue a comprehensive national security strategy with military, economic, and diplomatic components. Four areas of its national security strategy would be crucial: conventional military options, nuclear strategy options, diplomatic (or foreign policy) options, and economic development options.

1. Conventional Military Options

Conventional military options might include conventional defense, conventional deterrence, and conventional deterrence with defense. Conventional defense capability means a homeland defense using a denial strategy with conventional forces. A large army is the basis of territorial defense. The doctrine of conventional defense would be defensive-oriented. The force requirements for this option will depend on two variants: an autonomous defense or a strong self-defense capability coupled with extended conventional deterrence from some major powers.

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[89] Finnegan, p.128.

Conventional deterrence deters a potential adversary by a punishment and retaliatory capability that increases the cost of attack. This might include the launching of missile and air strikes. This option requires force projection capabilities such as, a Blue Water navy, a strategic Air Force with long-range bombers, and long-range and precision guided missiles. Conventional deterrence should be associated with a minimum homeland defense. This option would appear to be more offensive than the conventional defense option.

Conventional deterrence with defense is the combination of the two previous options. The proponents for this option would argue that conventional deterrence without defense capability is impossible. The force requirements of this option do not necessarily mean the numerical sum of other two options, but at least the same size army of the conventional defense option as well as the retaliatory capability of the deterrence option. Given sufficient economic power and public support, a Blue Water navy with light aircraft carriers and submarines will reinforce the credibility of a retaliatory capability and protect trade. The more the deterrence capability increases, however, the stronger others perception of offensive intentions. Thus, the doctrine of conventional warfare should be emphasized as a defensive-oriented strategy not to irritate nearby countries. Conventional defense coupled with a conventional deterrence capability would be an optimal conventional solution because it could provide reliable deterrence with manageable costs.

2. Nuclear Strategy Options

Because it is located in a nuclear neighborhood, a unified Korea should have a nuclear capability. Nuclear options can be placed into four categories: a nuclear free policy; a non-nuclear option with a nuclear umbrella; a virtual nuclear capability; and an independent nuclear capability. A nuclear free policy option means that a unified Korea would forego possession or development of nuclear weapons. To avoid transgressing this principle, a unified Korea would refuse any extended nuclear protection by another state. This option would be welcomed by most countries. There would be no external challenge to overcome, only possible nationalist opposition within a unified Korea. This option could result in, or reinforce, a Northeast Asia nuclear-weapons free zone (NANWFZ) that includes the eastern part of China and Russia and the whole of Japan, and would be coupled with a policy of neutrality. But this option is problematic. Neither China nor Russia will participate in a Northeast Asia NWFZ.

The non-nuclear option with a nuclear umbrella, the current position of South Korea, requires an explicit pledge by another nation to use nuclear weapons in protection of a unified Korea. It eliminates the costs of having an indigenous nuclear capability. Deployment of nuclear weapons onto a unified Korean territory may occur. This option mandates that a unified Korea does not have facilities which can be used for producing nuclear bombs to demonstrate its non-nuclear intentions. This option can be associated with a nuclear no-first-use pledge and negative security assurance from major powers. It would not provoke an arms race or opposition by the major powers. This option could allow a unified Korea to concentrate on economic development. It also does not give incentives for Japan to become nuclear armed and re-militarized.

After Korean unification, the nuclear capability and facilities of North Korea will become a hot issue. If a unified Korea dismantles North Korean nuclear bombs and facilities voluntarily under major power pressure there might be a strong nationalist backlash. While the globalization and international acceptance of anti-nuclear sentiments make a non-nuclear Korea highly plausible, the national security of a unified Korea could not be guaranteed by this option. A unified Korea without a reliable strategic deterrent would continue to have security concerns, worrying that it would again become a "prize" of big-power games. The insecurity created by this option makes a unified Korea more dependent on the extended deterrence of a major power. In addition, a non-nuclear Korea that lacks enrichment and reprocessing technology and facilities would suffer from energy dependence, and be required to import most of its nuclear reactor fuels from foreign countries. It also would limit scientific research and development for peaceful use of nuclear technology.

Virtual nuclear capability with a nuclear umbrella means that a state lacks nuclear weapons, but has the capability to make nuclear weapons and delivery systems. This is the current status of Japan, which could be capable of going nuclear in short order. To demonstrate virtual nuclear capability, a country should have some plutonium or other fissile materials for nuclear weapons, enrichment and reprocessing technology and facilities, and nuclear reactors. Virtual nuclear capability could be compatible with a nuclear umbrella provided by another major power. If this option can be achieved without loss of the U.S. nuclear extended deterrence commitment, it would be the highly preferred option for a unified Korea in terms of autonomy, national prestige, energy security, and national security.

Virtual nuclear capability without actual nuclear weapons would not produce significant international opposition. If a unified Korea were to attempt this option, it should revise the current nuclear free Korean peninsula policy, announced in 1992. This might produce some tensions with the major powers, especially the United States. China, Japan, and Russia also would oppose a Korean virtual nuclear policy. If the new nuclear policy results in the removal of the U.S. nuclear umbrella, a unified Korea will face security problems. There also will be possible economic losses produced by economic sanctions. Japan is considered to have a virtual nuclear capability, by which it has the technical and industrial prerequisites to manufacture a nuclear weapon in a short time. Japan has several nuclear reactors that could be used to process the necessary materials. Following this model, a unified Korea could present a credible deterrent to potential threats. While South Korea has the technical and industrial capability, it does not currently have the means to process weapons-grade nuclear material such as enrichment and reprocessing facilities.

Independent (autonomous) nuclear capability means that a state possesses nuclear weapons with reliable delivery systems and with no nuclear extended deterrence from another power. Some scholars like Tong Whan Park argue that "a unified Korea will most probably see little need for nuclear weapons, since even without them its security can be assured."[90] However, there will be strong incentive for nuclearization. A unified Korea will already possess the technological and industrial capability to produce nuclear weapons. It could be cost effective to build on these capabilities to insure security against neighboring great powers as opposed to paying for dismantling these capabilities. To

possess an independent nuclear capability, a state must possess the ability to absorb a first strike and still have a credible retaliatory capability, either through hardened facilities, elaborate mobile-launching systems, or submarine-based weapons. Needless to say, an independent, nuclear capable Korea is the most desirable option in light of requirements for a security guarantee, national pride, and maximum autonomy. Because of huge risks and strong objections by the major powers, however, the feasibility of this option is very low. This option is high risk because it could lead to the loss of a reliable security patron, the emergence of strongly militarized Japan with nuclear weapons, and a regional arms race. To keep the credibility of its nuclear capability, Korea will require huge military expenses for maintenance and recycling costs, which may undermine economic prosperity. A small number of nuclear bombs, with some second-strike capability, could achieve the security objective of a unified Korea, while not producing significant objections by major powers or encouraging instability in the region.

3. Diplomatic Options

A unified Korea would have a variety of diplomatic options: neutrality, multilateral collective security, Korea-U.S.-Japan triple alliance for collective defense, or a bilateral alliance with a major power.

A policy of neutrality, implying a unified Korea as the Switzerland of the East, rejects any kind of security alliances or participation in a regional security regime. Whether or not Korea would remain a United Nations member would depend on circumstances. While the policy of neutrality could make a unified Korea autonomous,

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[90] Park, p.115.

Korea's historical experience of neutral policy failure and high risks make this option unattractive. A neutral unified Korea without reliable strategic deterrents, such as autonomous nuclear capability or major extended nuclear deterrence, could not guarantee its own security. The loss of the U.S. security umbrella caused by neutrality will be the biggest disadvantage. Neutrality could make a unified Korea weaker and less influential internationally. Hence, it would not achieve its goal of national prestige or security.

The multilateral collective security option is based on a general deterrence posture in which there is no obvious adversaries and no significant threats or tensions. This option could be accomplished by expansion of the current primitive regional cooperative security regimes, such as ASEAN Regional Forum (ARF) and bilateral alliances, and would reduce animosity and tension between states. In this case, bilateral security alliances are not significant, but the presence of US Forces, Korea (USFK) will be necessary to prevent a regional arms race and instability. This option should include China as a member of any multilateral collective security system. This is the main difference between the multilateral collective security option and the U.S.-Korea-Japan triple alliance option. If China becomes part of a multilateral collective security regime, most significant potential threats could be removed. The option can give more autonomy to a unified Korea. If a unified Korea takes the initiative to promote a multilateral collective security regime, it can achieve power balancer status in the region and thus exert its international influence. It might promote economic progress while encouraging international assistance for the reconstruction of North Korea. Cultural differences, a history of confrontation and current animosity, and potential competition for regional and world hegemony between the United States and China make it difficult to foresee a

multilateral collective security system that would include China in the near future. Obviously, the evolution of U.S.-China relations will determine the feasibility of this scenario.

A U.S.-Korea-Japan triple alliance might be an effective collective defense instrument to guarantee national security from potential threats such as China and Russia. This option requires a Japanese military force, stronger than the current Japanese Self-Defense Force (JSDF). A Japan-centered alliance is not favored by a unified Korea and China. There would be a more equal relationship among three states than the current one. USFK and the U.S. nuclear umbrella will be needed to make the triple alliance credible. This option could guarantee the security of a unified Korea with relatively little military expenditure. National autonomy in foreign policy would be increased. A strong triple alliance could provide a solid foundation for a multilateral collective security system. It could make China less confrontational and pull Beijing into the alliance. If China confronts the triple alliance, however, it would create an arms race in the region with a unified Korea located in the center of military tensions. The situation might turn a unified Korea into a garrison state, similar to the situation that existed during the Cold War. Supporting the alliance against the threat of China would require high expenditure on conventional weapons and maintenance of large army to confront a direct threat from China. It also would insure against a withdrawal of U.S. nuclear deterrence.

Bilateral alliances with one of the major powers, such as the United States, China, Japan, Russia, also need to be considered. This option might require the stationing of foreign military forces within Korean territory to support the credibility of extended deterrence and the nuclear umbrella. This option would restrict Korean autonomy. A

continuation of the alliance with the United States does not constitute new threats to the other major powers. By contrast, initiating a new alliance with a neighboring state would unsettle regional security. Because the infrastructure for an alliance already exists, and the United States has been historically an effective alliance partner, there are few costs and disadvantages to continuing the alliance with the United States. Strong security commitments from the United States would allow a unified Korea to concentrate on economic prosperity. The continuation of the U.S. role as a stabilizer and a roadblock to a regional arms race would offer significant contributions for security and stability on the Korean peninsula. However, strong dependence on the United States could make a unified Korea less autonomous and stimulate strong Korean nationalism, especially in former North Korea.

China is another possible alliance partner. China offers huge potential markets for a unified Korea's export economy. But the risks of this option make its feasibility very low. Moreover, if a unified Korea allies with China, it would become no more than a buffer or satellite state of China. Such a movement would be a significant threat to Japan, giving it great incentives to militarize. Above all, an alliance with China would not be compatible with continuation of the alliance with the United States.

An alliance with Japan will be good for a unified Korea's economy. South Korea depends on technologies and imports from Japan. A unified Korea would require much money for reconstruction. An alliance with Japan, however, would be the least reliable option for improving Korean security because Japan does not possess a strong nuclear and conventional military capability. Strong Korean animosity toward Japan would prevent such an alignment, due to Japanese oppression during the colonial era.

The optimal diplomatic option would be to pursue a U.S.-Korea-Japan triple alliance for collective defense or a multilateral collective security system. Both states should have U.S. extended nuclear deterrence. The relationship between the states under the triple alliance and multilateral security regime should be equal. An independent foreign policy must be valued. Such a security system should aim over time to include China. Under such a security system, a unified Korea will be able to play the role of regional power balancer and exert influences on regional matters.

4. Economic Development Options

Increased economic interdependence, economic strength, and international cooperation and assistance for the reconstruction of North Korea must be part of a Korean national economic strategy. Active participation in regional trade blocs, such as APEC, and increasing economic investment and trade with China and Russia will help to achieve national economic objectives. Given strong relations with the U.S. and Japanese economies, a unified Korea should continue its close economic ties with the United States, Japan, and other western countries.

D. REALISTIC OPTIONS OF NUCLEAR DEVELOPMENT FOR A UNIFIED KOREA

In the previous section, four nuclear options for a unified Korea were identified: a nuclear free policy, a non-nuclear option, an independent nuclear capability, and a virtual nuclear capability. The first two non-nuclear options are not considered as variable options for a unified Korea. An independent nuclear capability can be developed as an

independent strategic nuclear deterrent with second-strike survivability[91] or small nuclear forces without second-strike survivability. The former option is unrealistic for a unified Korea because of the costs involved. So, if a unified Korea wants a nuclear capability as a deterrent, a virtual nuclear capability or small nuclear force without second-strike survivability is the only realistic options for a unified Korea.

Theoretically, nuclear proliferants will follow the nuclear proliferation ladder consisting of the following steps:

1. the establishment of a basic nuclear infrastructure (reactor, personnel);
2. the development of an infrastructure to produce weapons grade material (a separation plant for the production of plutonium, or uranium enrichment facility);
3. the acquisition of the technology and know-how to design, assemble, and manufacture the bomb;
4. a full-scale nuclear test followed by political declarations;
5. the development of the means to deliver nuclear weapons;
6. the promulgation of a nuclear doctrine that would provide guidelines and procedures to govern nuclear weapons within the country's overall national security posture;
7. the building of substantial nuclear arsenal to support the doctrine;
8. deployment: the establishment of operational procedures to handle the weapons, especially in crisis.[92]

The most critical threshold in this proliferation ladder is step 4, overt nuclear testing, and only seven states in the world announced their nuclear tests. Given the nuclear weapons program and infrastructure of the two Koreas, a unified Korea will possess the capability to accomplish step one through three with little effort.

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91 Until now, only two states, the United States and Russia, have been able to possess second-strike survivability.

92 Avner Cohen and Benjamin Frankel, "Opaque Nuclear Proliferation," *Opaque Nuclear Proliferation: Methodological and Policy Implications*, edited by Benjamin Frankel, Frank Cass, 1991, p.17~18. For more detailed discussion of the ladder concept and its components, see the relevant sections in Lewis A. Dunn, *Controlling the Bomb* (New Haven, CT: Yale University Press, 1982).

Negotiations concerning possible North Korean nuclear bombs and facilities will influence the initial nuclear status of a unified Korea. Based on the results, there will be three possible nuclearization paths which a unified Korea can follow: (1) the overt inheritance of North Korean nuclear bombs and infrastructures; (2) an opaque nuclear program for small nuclear weapons after the inheritance or dismantlement of North Korean nuclear bombs and facilities[93]; (3) virtual nuclearization without actual nuclear weapons.[94]

E. VARIABLES FOR A NUCLEAR POLICY BY A UNIFIED KOREA

South Korea faces a nuclearization dilemma. In terms of security and economic benefits, South Korea needs nuclear weapons, but nuclearization will invite enormous political and economic consequences from both allies and adversaries.[95] This section

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[93] The classic proliferation, overt proliferation, could be called as a first generation of nuclear proliferation. Second generation of nuclear proliferation, opaque proliferation, is characterized by the following general features: no tests, denial of possession, no direct threats, no military doctrine, no military deployment, no open debate, and organizational insulation. Avner Cohen and Benjamin Frankel distinguished the opaque proliferation from other corresponding terms such as 'ambiguous,' 'covert,' 'latent,' and 'classified' proliferation. See, Cohen and Frankel, p.18~23.

[94] Park called Japanese model of 'virtual nuclearization' as 'asymptomatic nuclearization,' see, "South Korea's Nuclear Option: The Interplay of Domestic and International Politics," p.111. For a detailed analysis on the Japan's real nuclear capacity and policy, see Tae-woo Kim and Minseok Kim, "The Korean Nuclear Question and Japan's Nuclear Policy," *Bukhan Yonku* (in Korean) [Study on North Korea], Autumn 1991, p. 144~165; "Japan's Nuclear Armament Capability, More Fearful Than North Korea's," *Wol-Kan Chosun* (in Korean) [Chosun Monthly], November 1991, p.358~369; Tae-woo Kim, "South Korea's Nuclear Dilemmas," *Korean and World Affairs*, Summer 1992, p.250~293; Selig S. Harrison, *Japan's Nuclear Future: The Plutonium Debate and East Asian Security*, (A Carnegie Endowment Book, 1996).

[95] For more detailed things, see Taewoo Kim, "South Korea's Nuclear Dilemmas," p. 250~293; and Park, "South Korea's Nuclear Option," p.105~113.

examines what variables will affect the policies of a unified Korea regarding nuclear strategy.

1. Constraints

States able to produce nuclear weapons often do not produce them for three reasons: they fear negative international responses, such as diplomatic isolation and economic sanction; they cannot overcome technical and financial challenges; and internal pressures such as domestic anti-nuclear sentiments and political impediments. In the case of a unified Korea, international non-proliferation and counter-proliferation efforts, high economic unification costs and the threat of a possible dwindling economy, and domestic anti-nuclear sentiment will be major challenges to nuclearization.

a. International Non-proliferation and Counter-proliferation Efforts

International oppositions would be one of the most difficult obstacles that a unified Korea must overcome before going nuclear. South Korea relinquished its nuclear weapons program due to U.S. pressure in 1970s. North Korea has struggled with its nuclear and missile programs against U.S.-led international nonproliferation efforts, mainly through the NPT and IAEA. In addition, the ROK and DPRK jointly declared the denuclearization of the Korean peninsula in 1991 and interested powers voiced support for this policy. North Korea's nuclear weapons program was blamed as a violation of the declaration for denuclearization and the NPT and raised significant international opposition. Measures used to prevent North Korea from developing nuclear weapons included economic sanctions and diplomatic condemnation of it as a rogue state. If a unified Korean government abrogates the denuclearization declaration and NPT

membership, and institutes a nuclear weapons program, it will meet strong foreign opposition and possible intervention.[96]

The most formidable challenges for a unified Korea would come from the United States working through the NPT and IAEA. The United States has provided military and economic assistance to guarantee the survival and prosperity of South Korea. While South Korea has achieved a strong military and economic position, its dependence on the United States continues. Without the U.S.-ROK alliance, ROK military forces lack confidence and superiority over DPRK conventional forces. Given DPRK WMD capabilities, South Korea is extremely vulnerable.[97] The U.S. nuclear umbrella and extended deterrence has been a critical element in the security of South Korea from the threat of North Korea and its allies, China and Russia. However, the United States might remove its extended nuclear deterrent over the Korean peninsula to punish a nuclear unified Korea. This would decrease the overall security of a unified Korea.[98]

Economic sanctions and diplomatic isolation posed by international efforts led by the United States and Japan also would make leaders of the newly unified Korea

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[96] Finnegan, p.132.

[97] North Korea is believed to possess WMD capabilities, including long-range missiles, although these are very primitive. South Korea, on the other hand, does not have any WMD and has eschewed developing such weapons. In addition, South Korea cannot develop missiles with capabilities over 300km-range or 500kg-warhead because of a capitulation with the United States for the transfer of missile technology. South Korea has requested the revision of the Korea-US Memorandum of Understanding (adopted in 1979 and revised first in 1992) which limits Korea's missile development to 180 km range even though Korea joined the MTCR. Missile negotiations between ROK and the United States since 1995 permits that South Korea can develop and deploy missiles of less 300 km-range and 500kg-warhead. See, "De facto Settlement of missile negotiations between ROK and the United States," *Yonhap News* (10/17/2000) (http://kma49.defence.co.kr/frame.html, accessed on 12/7/2000)

[98] This is a typical security dilemma of small states surrounded by more powerful countries concerning nuclear weapons. The nuclear weapons of small states increase its defense and deterrence capability, but at the same time decrease their overall security and stability by raising the stakes of competition.

reluctant to pursue nuclear capability. The Korean peninsula lacks energy and natural resources and has a very small domestic market. A unified Korea, like South Korea, will need foreign resources and markets to remain prosperous.[99]

Prosperity will be at stake if the United States and other developed countries end diplomatic and economic relations with a unified Korea, as they did against North Korea. Other neighboring countries also will not welcome the addition of a nuclear state in Northeast Asia. China does not favor nuclear proliferation in the peninsula. Its basic goal is "to seek to maintain peace and stability on the peninsula and to promote the early realization of denuclearization between two Koreas." [100] This position was demonstrated by China's non-support for North Korean nuclear weapons programs since 1990.

Japan is most anxious about nuclear proliferation in the Korean peninsula among major powers. Japan has been a strong supporter of the NPT, remaining a non-nuclear weapon state. However, a nuclear-armed, unified Korea will change Japanese non-nuclear policy. In July 1993, Foreign Minister Muto announced that if North Korea develops nuclear weapons, it becomes a threat to Japan.[101] This means that a nuclear-armed Korea of any kind (North, South, or unified) would probably be viewed by the Japanese as a threat, making Japan seek self-reliance by pursuing a nuclear arsenal.

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99 South Korea's trade with the United States and Japan represented over three-fourth of South Korea's overall trade. See, Republic of Korea National Statistical Office, *Korea in Graph* (http://www.nso.go.kr/graph/Month/7-1.gif, accessed on 11/13/00)

100 Tan Han, "Chapter 14 Nuclear Weapons and the Korean Peninsula," *Nuclear Policies in Northeast Asia*, edited by Andrew Mack, (United Nations, New York and Geneva, 1995), p.168.

101 Harrison, p.29.

Russia also seeks to prevent further nuclear proliferation on the Korean peninsula, although it did very little to thwart North Korea's nuclear weapons program. Russians might have believed that it was not necessary to stop nuclear proliferation by North Korea because international non-proliferation efforts would be sufficient. They also may have feared that opposition would jeopardize relations with one of its few remaining allies. Nuclearization efforts by a pro-U.S. unified Korea will give some incentives to Russia to become involved. In this situation, Russia would cooperate with the United States and would oppose nuclear proliferation by a unified Korea.

Summarizing this analysis, if a unified Korea tries to obtain its own nuclear arsenal, it must take the risk of diplomatic isolation and rouge state status. Non-proliferation of nuclear weapons and other WMD is becoming the international norm. Therefore, a unified Korea must take into account the risks caused by nuclear proliferation.

b. High Economic Unification Costs and Weak Economy

Nuclear proliferation by a unified Korea might be slowed by the economic drain caused by high unification costs. While several observers proposed different estimates the costs for Korean unification, ranging from $230 billion to $3,172 billion, [102] a unified Korea will need enormous financial resources to reconstruct the former North Korean region. In 1998, the economic gap between the North and South was enormous, as shown in the Table 2. A weak economy is one strong possible cause for the breakdown of North Korea. A unified Korea would inherit this weak economy. Nuclear weapons for

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102 For more detailed analyses, see, Noland et all, *Working paper 98-1 The Costs and Benefits of Korean Unification*, p.10.

national security would become a luxury item. A unified Korea might favor inexpensive security options, such as an alliance with one of the major powers and maintaining low military expenditures. In addition, high economic unification costs may undermine the economic strength of a unified Korea. In this situation, a unified Korea would not be able to afford a nuclear capability because of the huge R&D and maintenance costs and loss of international economic cooperation that would follow in the wake of a proliferation decision.

Classification	1997		1998	
	South Korea	North Korea	South Korea	North Korea
GNP ($billions)	437.4	17.7	316.8	12.6
Total Trade Volume ($billions)	280.8	2.18	225.59	1.44
Total Population (millions)	45.99	23.86	46.43	21.94

Table 1. Comparison of Economic Indices between North and South Korea[103]

c. Domestic Anti-nuclear Sentiments

Domestic anti-nuclear pressure had little influence in the 1991 announcement of nuclear-free Korean peninsula policy. There is a possibility, however, that a unified Korean government would face strong anti-nuclear public opinion. The Korean people could be persuaded by the logic that by becoming a nuclear state, they become a target of nuclear attack. Proponents for a nuclear-free-Korea might argue that the Korean people, who have lived under the threat of massive conventional attack over the past five decades, should not have to live under the threat of nuclear attack. Public opinion in a unified Korea also may not favor the development of deterrence capability if

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[103] This source comes from Republic of Korea *1999 Defense White Paper* (in English), p.244.

it comes at the expense of economic welfare. Unified Koreans might recognize the fact that true deterrence requires an ability to absorb a first strike.[104] This capability, however, would be incredibly expensive, draining money and manpower from other areas. To many Koreans, unification means peace. They might question the need for "luxury" weapons after peace is achieved. Finally, Koreans will not like being labeled a rogue state because of their decision to adopt nuclear weapons. Non-proliferation is becoming a strong international norm and South Korea has strongly committed itself to the NPT. The failure of North Korea's nuclear adventure will continue to remind Koreans that nuclear weapons might not bolster national prestige and economic development.

2. Motivations

Security concerns have been a major cause of nuclear proliferation around the world. According to Bradley A. Thayer, while there are different rationales for nuclear proliferation, security is the only necessary and sufficient cause, which explains the mechanics of a particular country's decision to acquire nuclear weapons.[105] He concludes "the principal cause of nuclear proliferation is the desire of states to gain increased security from external attack in an anarchic world."[106] By contrast, Scott Sagan challenged the popular view, saying that:

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104 This is called "survivable second-strike capability," which can deter any threat of war, even from major nuclear powers.

105 According Thayer, there are four competing theories concerning the causes of nuclear proliferation: prestige, bureaucratic politics, technological pull, and security. See, Thayer, "The Causes of Nuclear Proliferation and the Utility of the Nuclear Nonproliferation Regime" p.468~498.

106 Ibid, p.468.

> The consensus view, focusing on national security consideration as the cause of [nuclear] proliferation, is dangerously inadequate because nuclear weapons programs also serve other, more parochial and less obvious objectives. Nuclear weapons, like other weapons, are more than tools of national security; they are political objects of considerable importance in domestic debates and internal bureaucratic struggles and can also serve as international normative symbols of modernity and identity.[107]

A historical perception of vulnerability from external threat, public preference for nuclear weapons, and rising energy and economic demands and environmental issues would be motivations toward nuclear proliferation by a unified Korea.

a. Historical Perception of Vulnerability from External Threat and Intervention

South Korea attempted to acquire nuclear weapons in the belief that nuclear weapons would increase its security. North Korea produced 1~7 nuclear bombs with delivery systems. It is continuing to develop nuclear weapons and other WMD to enhance its national and economic security. Although Korean unification could facilitate stability and peace in Northeast Asia, it also could ignite regional instability and tension between countries in the region. Without a reliable self-defense or sufficient deterrent capability, a unified Korea will feel vulnerable to neighboring major powers.

Some might question why China or Japan would invade a unified Korea or why they would fight each other? Conflicts in the region are not inevitable, but there are several sources of potential conflicts. First, China is emerging as a major power in the region and in the world. There is no promise of a peaceful future between China and the United States or between China and Japan. Taiwan and the South China Sea are potential

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107 Sagan explains the cause of nuclear proliferation by using three models: the security model, the domestic political model, and the norms model. See, Sagan, "Why Do States Build Nuclear Weapons?: Three Models in Search of a Bomb," *International Security*, Vol 21, No.3 (Winter 1996/97), p.55.

areas of conflict. China appears willing to use military force to unite Taiwan with the mainland. The United States and Japan are continuing their plans to develop Theater Missile Defense (TMD), in the face of Chinese opposition. If North Korea becomes part of a democratic, free-market-oriented, unified Korea, China would find an American ally along its northern border. China may perceive a pro-U.S. unified Korea as a threat. This was one of reasons that China intervened in the Korean War when U.S. forces crossed over the 38th parallel. U.S. forces would be overwhelmed if China were to invade the Korean peninsula and Taiwan at the same time.[108] In this scenario, a unified Korea could not rely on the United States. Hostile relations with China would require a unified Korea to have more ground forces to defend the border with China, which is a almost three times as long as the current demarcation line along the Demilitarized Zone (DMZ) with North Korea. The absence of a secure peace between China and other major powers implies to Koreans that they are vulnerable to potential conflicts between major powers.

Second, the rising military power of Japan could be a threat. Historically Korea has been a victim of Japanese occupation. In the 16th century, Japan, united by Toyotomi Hideyoshi, invaded the Korean peninsula. In late 19th and early 20th century, Japan became the only modern Asian state, possessing a western-style military force. With U.S. acquiescence, Japan annexed the Korean peninsula in 1910 after it defeated both China and Russia. Now, Japan is again on the road to becoming a strong military power. Japan's defense budget was ranked the fourth largest in the world. It is approximately two times the sum of both Koreas' defense budgets, although Japan is

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[108] This is a first scenario of possible U.S. next war. See, Caspar Weinberger and Peter Schweizer, *The Next War,* (Washington, D.C., Regnery Publishing, INC.,1996), p.3~98.

spending only 1% of its GDP while South Korea is spending 3.3% of GDP on defense.[109] Consequently, many Koreans believe they have good reason to fear the future growth of Japanese military power.

Third, if a unified Korea does not go nuclear, it will be the only non-nuclear capable state in the region, facing giant nuclear powers and a nuclear ready Japan. The nuclear capability balance between a unified Korea and other surrounding countries would be larger than the conventional weapons gap. The United States, China, and Russia are able to build long-range nuclear missiles.

Japan is the only non-nuclear-weapon-state party to the NPT with plans to continue separating plutonium.[110] Between 1981 and 1995, Tokai-Mura reprocessing plants separated 5.7 metric tons of plutonium, enough to make 1000 nuclear weapons.[111] Japan also is the only state committed to the pursuit of a plutonium-based nuclear energy

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109 The following table shows the defense budgets of major military powers, and is quoted from the Republic of Korea 1999 *Defense White Paper*, p. 288.

Country	GDP (US$billions)	Defense Budget (US$billions)	GDP to Defense Budget (%)	Manpower (1,000)	Military Expenditure Per Capita (US$)
US	8,100	273.0	3.4	1,448	1,018
Russia	1,100	64.0	5.8	1,240	435
France	1,400	41.5	3.0	381	708
Japan	4,200	40.9	1.0	236	325
China	639	36.6	5.7	2,840	30
South Korea	443	14.7	3.3	672	320
North Korea	18	5.4	27.0	1,055	246

- Source: Military Balance 1998-1999.

110 Albright David, Frans Berkhout and William Walker, *Plutonium and Highly Enriched Uranium*, (Oxford: Oxford University, 1997), p.177.

111 Frank von Hippel and Suzanne Jones, "The Slow Death of the Fast Breeder," *Bulletin of the Atomic Scientists* (Sep/Oct 1997), p.47.

program.[112] Japan has a Fast Breeder Reactor (FBR), Monju, which produces more plutonium than it consumes. Japan's FBR is the most expensive nuclear power plant. By 1991, Japan's FBR budget exceeded the nuclear budgets of all other advanced nuclear countries.[113] Japan's pursuit of a FBR has been one of Japan's most uneconomical industrial pursuits because Japan could have produced several LWRs for the price it cost to build Monju. Thus, Japan's ability to expand quickly its nuclear capabilities is significant.

An increasing Japanese plutonium surplus also is a source of concern. Japanese Science and Technology Agency (STA) figures released in November 1995 show a total plutonium inventory of 13.1 tons at the end of 1994, of which 11.6 tons can be regarded as surplus, implying a 2.8 ton increase in the surplus in 1994 alone.[114] According to current Japanese plutonium policy, a vast plutonium surplus is unavoidable, and it was estimated that the cumulative surplus will grow to between 50 and 80 tons by the year 2010.[115] The Japanese atomic industry has definitely acquired a military potential, whether intentionally or not. These facts have increased international concern over potential nuclear armament of Japan on short notice.

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[112] Only France and Japan remained committed to an FBR program. France recently stated that it intends to close down its "Super-Phoenix" FBR. See, Denis Cosnard, "Nuclear Power-Christian Pierret Tries to Reassure Japan over French Policy" Paris Les Echos in FBIS-EAS-97-335. 1 Dec 1997.

[113] Skolnikoff, Eugene, Kenneth Oye and Tatsujiro Suzuki, *International Responses to Japanese Plutonium Programs*, (Cambridge: Center for International Studies, MIT, 1995), p.3

[114] Jinzaburo Takagi, "Japan's Plutonium Program: A Critical View," in *Japan's Nuclear Future: The Plutonium Debate and East Asian Security*, ed. by Harrison. P.71.

[115] Ibid, p.74.

A unified Korea would be pressed to take action to compensate for the gap in the nuclear capabilities between it and its neighbors. It is not difficult, in these circumstances, to see why a unified Korea might see nuclear options (virtual nuclear capability without bomb or clandestine small nuclear bombs) as an attractive, available, and cheap option.

b. Strong United Korean Nationalism

Korean nationalism, made stronger by unification, would drive nuclearization of the peninsula. Public opinion might favor nuclear weapons as a symbol of an independent sovereign state and as the sole means to avoid victimization during potential conflicts between powerful countries. South Korea's nuclear weapons program was strongly supported by the national assembly in the 1970s.[116] Some scholars argue that a South Korean nuclear program might be spurred by a surge of nuclear nationalism on the part of Koreans.[117]

Statement	Unit: %				
	5	4	3	2	1
If North Korea has nuclear weapons, then South Korea should also acquire nuclear weapons.	51.9	30.4	12.6	3.3	1.9
If the U.S.-ROK alliance is ended, then South Korea should also acquire nuclear weapons.	46.2	39.3	8.8	1.7	4.1
If Japan acquires nuclear weapons, then South Korea should also acquire nuclear weapons.	54.5	32.4	8.4	2.0	2.7
After unification, Korea should acquire nuclear weapons for protection from larger Asian countries.	37.0	38.8	15.1	4.9	4.3
Korea should never have nuclear weapons.	4.5	10.5	37.6	45.3	2.0

5: Strongly agree, 4:Somewhat agree, 3: Somewhat disagree, 2: Strongly disagree, 1:Don't know.

Table 2. South Korea attitudes regarding the acquisition of nuclear weapons

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116 Ha Young Sun, p. 155~156.

117 Tae Woo Kim, " South Korea's Nuclear Dilemmas." p.252.

The 1999 RAND survey of South Korean attitudes regarding acquisition of nuclear weapons shows South Korean's preference on nuclear weapons. The acquisition of nuclear weapons is supported by 82.3% of participants if North Korea has nuclear weapons, by 85.5% if the U.S.-ROK alliance is ended, by 86.9% if Japan acquires nuclear weapons, by 75.8% if unification is achieved. Only 15% of participants believe that Korea should never have nuclear weapons.[118] As the poll shows, the absolute majority of South Koreans favor the acquisition of nuclear weapons even without any direct nuclear threat. If the future leaders of a unified Korea refuse to adopt nuclear weapons, they must answer to public opinion.

Korean nationalism could be interpreted simply as an anti-Japanese sentiment. The RAND survey supported this interpretation. The poll shows that South Koreans think that Japan, rather than any other major powers, will be Korea's chief military rival after unification and represents the greatest future danger to South Korea's military security.[119] The poll also shows that the acquisition of nuclear weapons by Japan will trigger a popular demand in South Korean to acquire nuclear weapons. Based on this poll, recent trends in Japanese military expenditures, military capabilities, plutonium surplus, and the vague intentions of its nuclear industry program, will almost certainly produce public pressure to acquire nuclear weapons.

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[118] Norman D. Levin, *The Shape of Korea's Future: South Korean Attitudes Toward Unification and Long-Term Security Issues*, (RAND Center for Asia-Pacific Policy, 1999), p.23.

[119] Ibid, p.17~18.

Chief Military Rival After Unification			*Great Future Danger to Korea's Military Security*		
In your opinion, which country will be Korea's chief military rival after unification?			Which of these countries represents the greater future danger to South Korea's military security?		
	Unit: %			Unit: %	
	Sep. 1996	Feb. 1999		Sep. 1996	Feb. 1999
Japan	47.6	41.9	Japan	54.0	37.4
China	31.5	29.6	China	32.9	31.5
United States	13.8	12.2	United States	5.9	18.8
Russia	5.3	6.9	Russia	5.0	5.4
Southeast Asian country	0.1	0.8	North Korea	1.4	1.1
None	1.5	8.6	None	0.9	0.4
			No response	NA	5.4

Table 3. South Korean's attitude regarding potential adversary

c. Rising Energy Demand and Environmental Issues

A unified Korea will need more energy, which will require more nuclear power plants and fuel. Nuclear-generated electricity is extremely important to South Korea. Almost half of South Korea's total energy needs have been filled by nuclear power. South Korea is continuing to expand its nuclear-power capabilities, building 16 new plants, which will increase capacity by more than 100 percent.[120]

South Korea is dependent on foreign suppliers for much of its light water reactor fuel because South Korean uranium ore resources are limited. South Korea also is dependent on outside sources for the uranium enrichment services required for its light water reactors. Given that South Korea has renounced the development of reprocessing technology, which is not prohibited by NPT and IAEA, it is exploring long-term storage of spent fuel. South Korea currently is storing its spent fuels in water pools. If a unified Korea abides by South Korea's renunciation of the development of uranium enrichment

120 Richard Rhodes and Denis Beller, "The Need for Nuclear Power," *Foreign Affairs*, (January/February 2000), p.31.

and spent fuel reprocessing technology, its dependence on outside reprocessing will cause it to accumulate spent fuels. This will be criticized in terms of energy security, economic cost-benefit calculations, and environmental pollution.

The benefits of uranium enrichment and spent fuel reprocessing technology will increase so long as the demand for nuclear power does not decrease. A unified Korea will face strong internal pressure for enrichment and reprocessing technology and a setback to the 1991 renunciation of those technologies. Without an indigenous enrichment capability or a spent fuel reprocessing facility, a unified Korea will be unable to obtain fissile material for nuclear weapons. Even if a unified Korea were being able to produce fissile material, it could not produce nuclear weapons due to international scrutiny. However, it can have a virtual nuclear deterrent. If a unified Korea can control its fissile material, its desire for nuclear weapons also will increase.

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V. THE IMPACT OF A NUCLEAR KOREA ON REGIONAL PEACE AND SECURITY

If a unified Korea goes nuclear, it will face international opposition, especially from its four neighbors. Non-proliferation efforts against a unified Korea probably will not result in military conflict. On the contrary, nuclear proliferation by a unified Korea will produce a stabilizing effect on the region, reducing tensions between regional rivals and promoting multilateral efforts toward a collective security system, as nuclear deterrence optimists have argued. The strategic impact of nuclear capabilities for a unified Korea can be ascertained by examining the strategic consequences of nuclear proliferation on regional peace and security: *If nuclear proliferation would not generate preventive military attack, preemptive military strikes, and a nuclear war, and make less likely other type of conventional conflict, it will bolster regional security.* The following arguments are made to support this view: a nuclear arms race will not be produced by the presence of minimum nuclear deterrents; nuclear weapons will not be used accidentally or intentionally; a region with nuclear weapons will be more secure than one without nuclear weapons.

A. LIKELIHOOD OF MILITARY CONFLICTS

Nuclear proliferation by a unified Korea will not increase the likelihood of military conflict. Preventive and preemptive military attack will not be a feasible option for a unified Korea. The development of nuclear arms or a virtual nuclear capability by a unified Korea will not generate conventional regional conflicts. Nuclear war will not occur. Nuclear weapons will deter an attack on Korea from neighboring states, making

military conflict less likely. The nuclear proliferation of a unified Korea will not unsettle regional security and peace. On the contrary, it will increase it.

1. Preventive Military Attack

A preventive military attack to destroy primitive Korean nuclear weapons facilities is unlikely. According to nuclear proliferation pessimists, a unified Korea in the transition period of nuclearization is vulnerable to attack by one or more of the four major powers. The prediction is derived from the logic that, better a small war now than a large war later.[121] North Korea has not launched a preventive war against the South during the last five decades because of a clear and credible U.S. security commitment.[122] Russia did not conduct a preventive attack against China. China was not a proponent of preventive wars against Indian and North Korean nuclear weapons programs. Japan strongly opposed preventive strikes against North Korean nuclear facilities in Yongbyon during 1994 nuclear crisis. Would-be attackers thought that the cost of attacking was greater than the penalties for restraint in these past instances of nuclear proliferation.

Some might use Israeli preventive strike against Iraq's nuclear reactor at Osirak in June 1981 and U.S. air strike against Hussein's arsenal during the Gulf War and Operation Desert Fox as examples of possible nuclear dangers. These three strikes did not produce significant effects on regional security and escalation of conflict. The continuing Israeli threat of a preventive strike caused other proliferants to prepare counter-measures against preventive strikes. The South Asian experience more strongly supports the logic

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121 Kang, "Preventive War and the North Korea," p.333.

of nuclear deterrence optimists.[123] Although preventive wars were considered early on, they were rejected because of the fear of nuclear retaliation.[124] Even during both the 1986-87 Brasstacks and 1990 Kashmir crisis, neither country conducted preventive strikes against nuclear weapons facilities on the other side. A unified Korea can build a hardened underground facility and disperse dummies of nuclear facilities and weapons. If the probability of successful preventive attack is very low, such an attack is unlikely. A unified Korea can deter preventive war.

In addition, there is no legal justification for the preventive use of force in international law. In the case of Iraq, the Untied States could not launch a preventive attack solely to punish Iraqi's nuclear weapons program, because it was recognized as a violation of national sovereignty. Iraqi's nuclear weapons program was not a determining factor for U.S. preventive war against Iraq. Iraqi was not attacked because of its nuclear weapons program, but largely because of its aggression against Kuwait, which brought a response from the United Nations, including the United States. However, the United States did exploit Iraq's invasion of Kuwait to wage a preventive war against Hussein's nuclear infrastructure. Operation Desert Fox also sought to punish Iraqi's non-cooperation with the U.N. Special Commission (UNSCOM) in charge of disarming Iraq, rather than nuclear weapons program itself. Without the Iraqi defiance, the United States could not pass a U.N. resolution that permitted U.S. air-strikes against Iraqi's nuclear

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122 Ibid, p.335.

123 According to Lavoy, nuclear deterrence optimists toward South Asia are Sundarji, Arif, Subrahmanyam, Beg, Hagerty, Perkovich, and Lavoy.

124 Devin T. Hagerty, *The Consequences of Nuclear Proliferation: Lessons from South Asia*, (Cambridge, MA, MIT Press, 1998), p.182, and Lavoy, p.723.

weapons program. This legal restriction on the use of force will discourage a preventive attack.

2. Preemptive Military Attack

A second factor that will discourage a preemptive strike in Northeast Asia is the unlikelihood that it would succeed.[125] The cost of a failed preemptive attack would be disastrous. Nuclear proliferation pessimists are concerned that new nuclear states will not, or cannot, build survivable second-strike forces. They argue that military professionals will prefer to buy more weapons rather than invest in protective measures. Even if they wished to bolster nuclear defenses, bureaucratic routines and inflexible organizational procedures would obstruct those efforts.[126] They conclude that military professionals are strong advocates of preventive and preemptive military attack.[127] These arguments are very persuasive in the sense that the organizational routines and military offensive biases do increase the possibility of preemptive military attack. The argument does not make preemptive military attack inevitable, however. On the contrary, optimists' arguments are more persuasive because they focus on factors that would constrain or limit the use of nuclear weapons. Military preemption is difficult because of the protection and dispersal of nuclear forces. Furthermore, if preemption fails, would-be attackers must face powerful nuclear retaliation. Recent military developments such as ballistic missiles capable of delivering nuclear, chemical, biological warheads are making

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[125] Lavoy, "The Strategic Consequences of Nuclear Proliferation," p. 728.

[126] Ibid, p. 726.

[127] Sagan, "More Will Be Worse," p. 56~57.

preemptive military attack unthinkable.[128] Current North Korean missile capability, as proved by the 1998 Taepodong-2 missile test, and the advanced military technology industry of South Korea will support the notion that a unified Korea can protect its small nuclear forces and retaliate with them if it is attacked. Despite Korea's small size, seventy-five percent of its land is mountainous, making it easy to build hardened facilities and to hide and disperse nuclear forces and facilities. The proximity between a unified Korea and its neighbors will increase the fear of retaliation, even by conventional forces. In sum, the constraints would be stronger than the motivations to conduct preemptive military attack against nuclear-armed unified Korea.

3. Conventional Conflicts

The pessimists have focused on two scenarios of conventional war in the nuclear world.[129] The first is that a nuclear-armed state can use its nuclear force as an instrument of conquest. Many people have asked what would have happened had Iraq possessed nuclear bombs when it invaded Kuwait? How can the United States stop China if Beijing tries to employ military forces against Taiwan in future? Nobody can answer these questions confidently. But because the United States will be reluctant to risk a nuclear exchange, it will delay intervention or possibly fail to intervene at all. An inadvertent escalation can occur. In the nuclear world, the threat that leaves something to chance will prevent escalation to the nuclear level. This explains both why the Cuban missile crisis did not escalate, and why the United States is concerned about a nuclear-armed Iraq and

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[128] Lavoy, "The Strategic Consequences of Nuclear Proliferation," p. 727.

[129] Ibid, p. 737.

North Korea. Second, even between nuclear-armed states, conventional conflict to change the territorial or political status quo can be initiated by the state that "is confident in its ability to manipulate the risk of nuclear war and control the pace of military escalation."[130]

In Northeast Asia, no state would use its nuclear forces as an instrument of conquest. Waltz argues that a nuclear offensive even against a non-nuclear state is unlikely if the state attacked can retaliate.[131] Hence, the nuclear-armed, unified Korea will not dare to launch a conventional attack against its giant neighbors. If Japan does not arm itself with nuclear weapons, one could argue that a non-nuclear Japan can be threatened by China or Russia. Japan, however, is not Kuwait and Taiwan. Even under the limitation of its Peace Constitution, Japanese defenses are robust. Japan, backed by the United States, will not be easily attacked by conventional forces.

The second conventional conflict scenario is based on stability-instability paradox. A unified Korea, even with nuclear weapons, will not launch a conventional war against any neighboring state. Will neighboring states initiate military attack against a unified Korea by using superior conventional forces? This is impossible to say. But if war does occur, it is not because of the impact of nuclear proliferation, but because of the inherent anarchy of the international system. The sources of instability between states always exist,[132] even in peacetime.

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[130] Ibid, p. 737

[131] Waltz, "More May Be Better," p. 16.

[132] The international system is a self-help system. Anarchy is the ordering principle of world politics. In anarchy, the primary objective of nation-state is survival. In the self-help system, states fear each other

4. Nuclear War

Pessimists argue that as the number of nuclear states increases, the more the possibility of nuclear war increases. Both Waltz and Sagan agree that the destructive power of nuclear weapons is awesome and nuclear weapons states should be exceedingly cautious.[133] It is very difficult to launch a disarming first-strike with high confidence because of the difficulty of success and the fear of second-strike retaliation. Surely, nuclear weapons do not make nuclear war likely, as history has shown. If a unified Korea develops nuclear weapons, the number of nuclear weapons states in the Northeast Asia will increase from 4 to 5, including the United States.

According to stability-instability paradox situation, conventional conflict between nuclear-armed states is still plausible. However, any side will not attack vital interests of other nuclear-armed states because deterrence is based on the fear of nuclear retaliation. States will be more cautious in a nuclear world than in a non-nuclear world.[134] Moreover, if a state is relatively weak in terms of military forces, the weak state will not provoke a stronger rival.

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and have to have strong security capabilities for its survival. This might be a source of instability. Waltz, *Theory of International Politics* (New York: Random House, 1979), p. 111.

[133] Sagan, "Sagan Response To Waltz," p.116.

[134] Waltz, "More May Be Better," p. 13.

B. SUPPORTING ARGUMENTS

1. A Nuclear Arms Race Will Not Be Produced Due to the Presence of Minimum Nuclear Deterrents

States in the region will not conduct a nuclear arms race over minimum nuclear deterrence, and a limited nuclear arms race will not significantly harm regional peace and security. Nuclear proliferation pessimists fear that the introduction of nuclear weapons, like other highly advanced conventional weapons, would eventually provoke costly arms races, raising the possibility of nuclear war.[135] In addition, Michael Finnegan argued "while a nuclear capability potentially increases Unified Korea's security, it decreases the overall security and stability of the region's other states; the addition of a nuclear Korea would not be welcome."[136] According to his logic, nuclear weapons of a unified Korea inevitably induce nuclear arms races, which could result in a nuclear-armed Japan, de-stabilizing regional security.

The concern that a nuclear-armed Japan and an arms race between regional states are de-stabilizing factors in the short term cannot be denied. In the long-term, however, nuclear weapons owned by a unified Korea are no more harmful to regional security and peace than those of China. Nuclear weapons of a unified Korea will not be different from those of China. Small nuclear weapons of weak states cannot be used first against the larger nuclear forces of powerful states. No-first-use of nuclear weapons by small states will serve self-defensive purposes like a hedgehog strategy. The fact that Japan failed to

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135 George W. Downs, "Arms Race and War," in *Behavior, Society, and Nuclear War*, vol.2, ed. Philip E. Tetlock et.al. (New York: Oxford University Press, 1991), p. 73~109.

136 Finnegan, p. 132.

renounce its non-nuclear principle in response to the Chinese nuclear test in 1964,[137] and of the North Korean nuclear program in the 1990s argues against the pessimists' fear of a costly nuclear arms race.

In addition, there are strong incentives to limit nuclear arms races from exceeding minimum nuclear deterrence. Arms reduction efforts between the United States and the Soviet Union (Russia) have shown that a huge stockpile of strategic nuclear weapons was not necessary and that minimum nuclear deterrence was sufficient to deter any threats. Second-tier nuclear powers such as Britain, France, and China understood this point. Even in the regional rival context, India and Pakistan have not conducted an excessive nuclear arms race. Japan and a unified Korea, relatively advanced states, can be expected to learn the edifying points from other regional examples, specifically that a deterrence by small nuclear forces is possible.[138] Thus, a limited arms race, even involving nuclear weapons, will not significantly harm regional security and peace.

2. Nuclear Weapons Will Not be Used Accidentally or Intentionally

Nuclear proliferation by a unified Korea will not increase the possibility of the unauthorized use of nuclear weapons. One possible concern about nuclear proliferation in the Northeast Asia is "the great risks of inadvertent and unauthorized use of nuclear weapons" and nuclear terrorism.[139] Pessimism concerning this issue is based on the high readiness-command and control dilemma, which means that nascent nuclear states must

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[137] Okimoto, "The Nuclear Dimension," p. 134~135.

[138] Waltz, "More May Be Better," p.22.

[139] Lavoy, "The Strategic Consequences of Nuclear Proliferation," p. 732.

maintain high readiness to make their nuclear capabilities credible. At the same time, high readiness could increase the possibility of loss of control and accidental and/or unauthorized use of nuclear weapons.[140] The loss of control of nuclear weapons also could increase the possibility that non-state actors, like terrorist organizations, might gain control of them.

The chances that terrorists will gain control of Korea's nuclear weapons is very low. Nuclear weapons are unlikely to be attractive to terrorist groups because they seeks the simplest, least costly, least risky, and most reliable means of attack available. Optimists theorized that there are strong incentives to control weapons safely because nuclear states know that the result of their failure to control them would be disastrous. The optimists' argument is supported by empirical evidence that nuclear weapons have never been used accidentally or intentionally since two or more nuclear states existed. Consequently, new nuclear states have the same or even stronger incentives to control their nuclear weapons by putting them in secure facilities because the failure to control the nuclear weapons will result in retaliation.[141] In addition, new nuclear states can control their nuclear weapons more easily than major powers because their nuclear forces are smaller than those of great powers.

In the Northeast Asia context, optimists' views are more applicable. The final answer concerning the command and control issue will depend on the specific choices a

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[140] To increase the readiness of nuclear force postures, nuclear states could delegate authority to use nuclear weapons to field commanders, putting their nuclear weapons under launch-on-warning postures. To decrease the possibility of inadvertent and unauthorized use of nuclear weapons, nuclear states could store their nuclear arsenals in a disassembled condition at civilian laboratories and separate from their delivery systems, as India and Pakistan now do.

[141] Waltz, "More May Be Better," p.21.

unified Korea makes about nuclear force postures, controls, and strategies.[142] There is no reason why a unified Korea will not or cannot be able to control its nuclear weapons.

3. A Region with Nuclear Weapons Will Be More Secure Than One without Nuclear Weapons

Today, China, Russia, and the United States are nuclear-armed actors in Northeast Asia. Japan can be labeled as a virtual nuclear state. Without nuclear weapons, or nuclear-ready capabilities, a unified Korea will be the only country that does not have a reliable strategic deterrent. Four major powers have fought each other to control Korea. Ancient Chinese and Japanese dynasties fought each other or with ancient Korean dynasties on the Korean peninsula. Since the western countries came to the region, four major wars between four major powers have been fought over the Korean peninsula. The argument that the Korean peninsula is without a reliable strategic deterrent and that this is a source of instability is strengthened by the fact that states on the Korean peninsula have been attacked by foreign countries almost 1,000 times. The security environment that a unified Korea will face in the coming five decades will not be different from the past. It will be very likely that Northeast Asia after Korean unification will resemble that of the late 19th century, when four major powers struggled for regional hegemony.

What will be the solution to the problem? One might argue that the most desirable solution is to develop a multilateral collective security system, like NATO in Europe. An Asian version of NATO, however, seems to be far away. Although the United States and Japan are conducting a policy of engagement with China, they have little to show for it. In addition, many sources of hostility such as Taiwan, exist. Japanese territorial

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142 Lavoy, "The Strategic Consequences of Nuclear Proliferation," p. 733.

expansion in the early half of the last century produced a critical ethnic hostility, which might be a major obstacle to develop a multilateral security system.

In addition, the security of a nuclear-free Koran peninsula probably would not be threatened, and the four major powers in Asia would continue to balance each other in Northeast Asia.[143] There is no doubt about it. But, the balance of power has failed to guarantee permanent peace and security in the past.

Will nuclear proliferation by a unified Korea make a difference? Yes, it will. First, it will prevent intervention on the Korean peninsula by the removing one of the sources of instability in the region. Second, it will generate multinational movements towards arms control, tension reduction, and, most importantly, the foundation of a collective security system. Nuclear proliferation by a unified Korea will produce near deterrence equilibrium in the region,[144] in which all states in the region are able to deter all other states despite their unequal nuclear capabilities. When states realize that their military forces cannot change the status quo, they will start a peace process. This has been the pattern in U.S.-Soviet relations, in the Middle East, and in South Asia. In sum, in the Northeast Asia regional context, more nuclear weapons states encourage stability.

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[143] Park, "South Korea's Nuclear Option," p.114.

[144] Additional Japanese nuclear proliferation will make for a more perfect deterrence equilibrium.

VI. CONCLUSION

Throughout the never-ending story of competition by foreign states for dominance over the Korean peninsula, Korea has suffered from foreign invasion, military conflicts between the four powers, cultural genocide by Japan, national division, and war between the Koreas. The Japanese dominated the affairs of the Korean peninsula until defeated by the Americans and Soviets in 1945. Immediately after liberation from Japan, Korea was divided into two different political and ideological entities by the United States and Soviet Union. These countries have maintained political influence over the Korean peninsula, although Russia's influence over North Korea has decreased since the end of the Cold War. In the mean time, China has increased its political influence over not only North Korea, but also, over South Korea. Today, China's influence over the Korean peninsula is second only to that of the United States.

At the dawn of a new millennium, the Korean peninsula seems to be approaching a new phase in its history. Korean unification seems to be close. There is no significant opposition by Korea's four neighboring powers. A stable balance of power exists in the region, which will not be hurt by Korean unification. With the support of all four major powers in the region, a unified Korea might enjoy security and prosperity. This is an idealistic perception, however, about the world after Korean unification. Peace cannot be guaranteed, which is why Koreans need a smart national strategy and a strong national defense. Nuclear options should be considered as one of several ways for achieving national security. Accordingly, long-term national defense plans should be made now for a successful unification process and a unified Korea.

A. FINDINGS

1. Theoretical Explanations of the Strategic Consequences of Nuclear Proliferation on Regional Peace and Security

Many scholars have participated in the debate concerning the strategic consequences of nuclear proliferation in both a world and regional context. Nuclear proliferation pessimists view nuclear weapons as a danger to international peace and security. They are concerned that nuclear weapons will lead to preventive and preemptive attacks against new nuclear proliferants, nuclear accidents, unauthorized use of nuclear weapons, nuclear terrorism, or a nuclear war. These concerns have been overstated. Nuclear weapons have, so far, not resulted in a nuclear war or conventional military conflict involving the vital interests of nuclear-armed states. Nor have these weapons made war more likely. Experience around the world suggests that major war involving the vital interests of nuclear-armed states is unlikely. Nuclear terrorism is not likely because of financial and technical barriers that terrorists groups cannot supercede. In addition, nuclear weapons are not adequate political instruments for terrorists because of the massive destruction they inflict. Nuclear accidents are not a matter of regional security and peace. There have been no accidental or unauthorized use of nuclear weapons to date. Command and control of nuclear weapons has only become stronger. Thus, nuclear proliferation would not cause preventive military attack, preemptive military strikes, nuclear war, or any other type of conventional conflicts. On the contrary, nuclear proliferation will be beneficial for regional security.

2. Two Koreas' Nuclear Experiences

Security was the major motive behind the nuclear weapons program in both Koreas. Both Koreas believe that owning nuclear weapons will enhance their national prestige and become a useful instrument for self-defense. Strong leadership also was a driving factor towards nuclearization in both countries.

A unified Korea's nuclear policy will depend mainly on the security environment in which it finds itself. But it also will be influenced by energy security needs, economic calculations regarding nuclear industries, and environmental concerns. In addition, the fact that both Koreas benefited from their nuclear weapons program also will affect the nuclearization decision of a unified Korea. In short, concern for nuclear weapons on the Korean peninsula will only increase after Korean unification, since a unified Korea will have many incentives for nuclear proliferation.

3. Nuclear Options for a Unified Korea

Although a unified Korea can be assumed to be domestically stable, democratic, and market-oriented, Korean unification will nevertheless have three negative effects on regional stability. First, Korean unification will remove a regional buffer zone and increase competition between the four major powers. Second, Korean nationalism after unification will become stronger and more hostile to foreign powers. Finally, if the economy of a unified Korea can bear the high unification costs, a unified Korea will become a stronger state than either Koreas were separately in terms of population, military force, and economic power. In addition, during the early period of the unification process, military intervention by the foreign countries will be likely if one of the major powers, especially China or Russia, opposes the outcome of the unification process. This

also may occur if North Korea has an internal crisis that results in regime breakdown or internal insurgency.

To prepare for and hedge against the possible negative effects of Korean unification and foreign intervention, a unified Korea will require stronger military forces not just to defend its territory, but also to prevent foreign military intervention. In formulating national security strategy for a unified Korea, nuclear options should be considered in which a unified Korean would have the technical and industrial capability to produce nuclear weapons. Nuclear weapons, or a virtual nuclear capabilities, will be useful in preventing foreign military intervention.

A unified Korea will have three realistic nuclear options: (1) the overt inheritance of North Korean nuclear bombs and infrastructures; (2) an opaque nuclear program for a small number of nuclear weapons after the inheritance and/or the dismantling of North Korean nuclear bombs and facilities; (3) virtual nuclearization without actual nuclear weapons. It is difficult to predict whether these options are feasible or not. These options will be constrained by international non-proliferation and counter-proliferation efforts, high economic unification costs, the threat of a dwindling economy, and domestic anti-nuclear sentiment. By contrasts, the perception of vulnerability from external threat, public preference on nuclear weapons, bureaucratic and industrial struggles to meet rising energy and economic demands, and environmental issues will drive a unified Korea toward nuclearization.

4. Strategic Impact of Nuclear Proliferation by a Unified Korea on Regional Security

The fifth chapter of this thesis suggested that nuclear proliferation by a unified Korea will not harm regional peace and security. Nuclear proliferation by a unified Korea will not increase the likelihood of military conflicts, but it can prevent wars in Northeast Asia. The region will not experience a dangerous nuclear arms race over minimum nuclear deterrence. Nuclear proliferation by a unified Korea will not increase the possibility of the unauthorized use of nuclear weapons or nuclear terrorism. In addition, the nuclear weapons of a unified Korea could prevent a possible struggle for regional hegemony, especially on the Korean peninsula, and could promote regional efforts to consolidate a peaceful status quo in the region. Today, many scholars argue that USFK should continue to be stationed on the Korean peninsula, even after Korean unification, to prevent a power vacuum on the peninsula. In some foreseeable future, Americans may recognize that U.S. forces in a unified Korea will become too dangerous and expensive. The costs for the United States will exceed the benefits, especially since a unified Korea will no longer be a vital U.S. interest. Decreasing trends in U.S. defense expenditures since the end of the Cold War also will become a driving factor for the reduction of U.S. forces in Northeast Asia. Under these circumstances, nothing can replace U.S. forces' stabilizing effect, except strategic nuclear deterrence, either as a virtual nuclear capability or small nuclear force of a unified Korea.

B. IMPLICATIONS FOR POLICIES

Nuclear weapons are the most destructive weapons ever made, but at the same time are useful instruments in preventing war. The findings in this thesis suggest that policies regarding on the Korean peninsula and Northeast Asia should leverage the beneficial effects of nuclear weapons, if this can be done without significant risks.

1. Reconsidering the Nuclear-free Korean Peninsula Policy

South Korea's nuclear-free-policy announced on November 8, 1991 has not prevented North Korea's opaque nuclear program. On the contrary, it has prohibited a peaceful use of nuclear technology by South Korea, which renounced possession of enrichment and reprocessing facilities that are completely legal under NPT and IAEA regulations.[145] Renouncing the possession of enrichment and reprocessing facilities was not necessary to achieve the objective of preventing the North Korean nuclear weapons program. This renunciation was imposed by the United States to prevent South Korea from owing weapons-grade fissile materials.

South Korea should reconsider its voluntary policy of denuclearization. The United States should not discourage this effort. South Korea can benefit from enrichment and reprocessing technology, enhancing energy security and economic benefits and settling possible environmental problems caused by un-reprocessed spent fuels. Above all, South Korea can utilize its nuclear capabilities as a component of national security

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[145] The announcement by President Roh stated the following government policy: "The Republic of Korea will continue to submit to comprehensive international inspection all nuclear-related facilities and materials on its territory in compliance with the Nuclear Non-proliferation Treaty and with the nuclear safeguards agreement it has concluded with the International Atomic Energy Agency under the treaty, and will not possess nuclear fuel reprocessing and enrichment facilities."

strategy, using the potential to make nuclear weapons as a virtual nuclear deterrent. Nuclear-free South Korea might feel secure from the North Korean threat in a nuclear-free Korean peninsula. A nuclear-free unified Korea, however, cannot be secure against external threats posed by nuclear-armed neighbors. From a long-term perspective, South Korea should move toward a virtual nuclear capability to compensate for its inferior conventional capabilities. Actual nuclear weapons for South Korea or a unified Korea will be too risky. Nevertheless, nuclear weapons options should be available as insurance.

It also is time to change the unequal partnership between South Korea and the United States. South Koreans believe that they are not respected as an equal alliance partner by Americans.[146] During the recent ROK-U.S. missile negotiations and the Status of Forces Agreement (SOFA) negotiations,[147] South Koreans strongly complained about their unequal treatment by the United States, comparing to security relations between the United States and other host nations. South Korean public opinions pressed for U.S. concession during the two negotiations, but the concessions did not fully satisfy South Koreans. An unequal partnership on nuclear issues between the two governments has not been well received by the South Korean public. The United States should not prohibit South Korea's legitimate peaceful use of nuclear technology, as permitted by the NPT

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[146] Levin, p.28. Polls in 1996 and 1999 conducted by RAND show that 86 percent believed the United States played the dominant role and only 12 percent saw the relationship between the United States and ROK as being one of equals.

[147] U.S. government is requesting Korea to adopt a revised version of the Korea-US Memorandum of Understanding (adopted in 1979 and revised first in 1992) which limits Korea's missile development to 180 km range even though Korea joined the MTCR. SOFA between the ROK and U.S. goes far beyond making simple accommodations to the U.S. Army - it is practically forfeiture of the sovereignty of Korea, according to the assertion by the "People's Action Reform of Unjust ROK-US SOFA Agreement"(http://sofa.jinbo.net, accessed on 11/28/00)

and IAEA. The United States must show its willingness to treat South Korea as an equal security partner to maintain South Korea's position concerning the dominant U.S. role on the Korean peninsula. The United States should not delay any longer. It is time for a change.

2. Evaluating Nuclear-free Northeast Asia

Taewoo Kim suggests that the concept of nuclear-free Northeast Asia should be further developed as an international agreement satisfying at least five conditions:

(1) It should cover the eastern area of China and Russia as well as the Korean peninsula, Taiwan, and Japan;
(2) Russia, China, and the United States should not deploy any nuclear weapons in the area covered;
(3) Russia, China, and the United States should renounce permanently the use of weapons against non-nuclear states in the region on the condition that the states guarantee nuclear transparency and do not pose any nuclear threat against any other state;
(4) Most importantly, the United States should maintain nuclear protection for South Korean and Japan against a nuclear threat from China and Russia, while China or Russia should provide the same protection for North Korea against a U.S. nuclear threat;
(5) Non-nuclear states should not be subject to any restraints or disadvantages with regard to the non-military use of atomic technologies and facilities.[148]

If these five conditions can be achieved, Northeast Asia NWFZ (NANWFZ) could become effective. However, NANWFZ cannot work as now structured because the commitments of the major nuclear powers can easily be violated and the detection and enforcement of any violation is difficult. If Japan continues to pursue a unilateral technological edge, NANWFZ cannot be confidence about its effectiveness over non-

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148 Taewoo Kim, "Japanese Ambitions, U.S. Constraints, and South Korea's Nuclear Future," p. 106, in Harrison, *Japan's Nuclear Future: The Plutonium Debate and East Asian Security*.

nuclear states. Above all, NANWFZ cannot prevent conventional conflicts in the region, although it can make nuclear war less likely. Small states like Korea and Taiwan will require nuclear capabilities to avoid becoming involved in wars. NANWFZ is certainly not their best option.

3. Towards Virtual Nuclear Deterrence

A credible deterrence requires that the defender appears to possess both the military capabilities to inflict substantial costs on an attacker and the will to use those capabilities.[149] A virtual nuclear capability possessed by a unified Korea will not fully meet these requirements for credible nuclear deterrence, but it can supplement its conventional deterrent. If a virtual nuclear capability can be associated with strong conventional defense and deterrence, a virtual nuclear deterrence will be credible. In a conflict, conventional forces should buy enough time to prepare retaliatory nuclear forces. As part of virtual nuclear deterrence, delivery systems for nuclear bombs, such as missiles, bombers, and their C4I (Command, Control, Communication, Computer, and Intelligence) systems, should be developed and operated by a unified Korea. In particular, the range of missiles and bombers need to be able to reach all the main cities of China and Japan. Even though a unified Korea may possess the military capabilities needed to inflict substantial costs on a would-be attacker, possessing the will to use those capabilities is important. Therefore, South Korea or a unified Korea must develop an active nuclear policy and move towards a virtual nuclear capabilities.

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[149] Paul K. Huth, *Extended Deterrence and the Prevention of War*, (Yale University Press, 1988), p.33.

C. FINAL THOUGHTS

The United States should work with South Korea or a unified Korea for security and peace on the Korean peninsula and Northeast Asia, assisting the development of South Korea's virtual nuclear capabilities and the modernization of South Korea's advanced conventional forces. The United States has been South Korea's most reliable and effective alliance partner. This can be expected to continue, even after Korean unification. If the United States were to hesitate to help South Korea's movement toward virtual nuclear deterrence, from the ROK perspective, the U.S. security commitment would become questionable and opaque nuclear weapons development might become an attractive option for Seoul.

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